CHRISTIAN TROELSGÅRD

Byzantine Neumes

A New Introduction to the Middle Byzantine Musical Notation

MUSEUM TUSCULANUM PRESS

The series Monumenta Musicae Byzantinae (MMB) has as its aim to make generally available the musical traditions of the Byzantine era, which, in spite of their importance for the study of early music history, have not been easily accessible. MMB contributes to the study of these musical traditions through the publication of facsimiles of musical manuscripts of the Byzantine Rite, together with transcriptions and studies of the notations, history, types and theory of its music. Founded by Carsten Høeg, H.J.W. Tillyard and Egon Wellesz in Copenhagen in 1931, MMB was adopted by Union Académique Internationale in 1933 and is under the administration of The Royal Danish Academy of Sciences and Letters.

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BYZANTINE NEUMES

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Foreword

It was the discoveries regarding the interpretation of musical neumes of the Middle Byzantine period (c.1100-1450) that had been made by H.J.W. Tillyard and Egon Wellesz at the time of the First World War that led Carsten Høeg to convene a meeting in Copenhagen in 1931, which resulted in the foundation of Monumenta Musicae Byzantinae. At that meeting, as Egon Wellesz recalled, "The main topic of our discussions was the transcription of Middle Byzantine neumes" and when the first publications of the new venture appeared in 1935 it was only to be expected that the fruits of these discussions would be amongst them. This was H.J.W. Tillyard's *Handbook of the Middle Byzantine Musical Notation*, MMB Subsidia I (Copenhagen 1935), now long since out of print. When it was decided to reprint it in 1970, Professor Oliver Strunk, the then director of MMB, in his Postscript to the reissue called it "an extraordinarily practical introduction to Byzantine music", and "It is safe to say that every one of the younger men now working in this field began his studies by mastering this work." While conceding that "No doubt it will someday be necessary to reconsider it [Tillyard's method] in the light of our rapidly widening experience", Strunk concluded that "Even though it is by this time [1970] thirty-five years old, it is still as useful as ever."

Since these words were written a further forty years have passed and, while still subscribing to the admiration and gratitude felt by generations for Tillyard's "practical" and "useful" Handbook, the Editorial Board of MMB has felt that, after 75 years, the volume of experience that has been acquired in the study of Byzantine music, largely stimulated and facilitated by MMB's own publications, warrants an entirely new exposition of this subject. The focus is still on the musical notation of the Middle Byzantine period, but the scope has been widened somewhat and the exemplification material is broader – indeed, the selection of facsimiles included in this book provides a very useful compendium. In 1916 Tillyard published an article on "The Problem of Byzantine Neumes" (*American Journal of Archaeology* XX); I am sure that by calling his new manual simply *Byzantine Neumes* Dr. Troelsgård, who continues the tradition for Byzantine studies at the University of Copenhagen established in the 1920s by Professor Carsten Høeg, does not suggest that the "problem" in all its aspects has now disappeared, but one may be sure that here it is at least illuminated by the light of

the latest research and the accumulated experience of nearly a century. I trust that this successor to Tillyard's *Handbook* will prove for coming generations to be as useful and practical a guide to the study of Byzantine music as its predecessor has been. It is a great pleasure to enter it under its own name and number as MMB's Subsidia IX.

John Bergsagel

Preface

Since the series MONUMENTA MUSICAE BYZANTINAE was opened with the publication of Tillyard's *Handbook* in 1935,[1] that small book has introduced generations of students to the Middle Byzantine musical notation. In 1970 it was reprinted with a postscript by Oliver Strunk in which he did not conceal the fact that many details of Tillyard's *Handbook* had become outdated since its first appearance. In 1993, the MMB Editorial Board decided to replace the old Handbook with an up-to-date introduction and invited Jørgen Raasted to write it. Raasted had in mind to retain the approximate size and unpretentious character of its predecessor, but to "enlarge its scope from being predominantly a description of the MMB rules of transcription to a basic introduction to the field of Byzantine Chant", as he wrote in the preface to an unfinished sketch. Jørgen Raasted died in May 1995.

At the 1996 Editorial Board Meeting in Copenhagen it was decided that I should try to bring this project to an end, using Raasted's five page sketch as a point of departure, but feeling free to work in my own directions. It has been my primary intention that this book could serve as an introduction and companion to the MMB facsimile volumes of manuscripts with Middle Byzantine notation. This declaration is practically identical with the opening words of Tillyard's preface from 1935, and, consequently, the book covers approximately the same topics. The justification, then, of writing a new introduction is not only that our understanding of many notational details has been modified considerably since 1935. The most important reason for doing it is probably that the general approach to Byzantine chant has, rightly, shifted from exclusively looking at the chant pieces as 'works of art' in a 'closed score', towards an acknowledgement of the notated chants as witnesses to an organic musical culture. In addition, more emphasis is laid on the relationship between text and music (Chapter I), the historical development of the Byzantine notations and the music they represent (Chapter III), palaeographical aspects (especially Chapter V and Appendix), and, finally, on the differentiation of the notational styles in the various chant genres (especially Chapter VII).

Byzantine chant is rarely included in the *curricula* of music history, at least outside the Eastern European countries. However, as a counterpoint to Western plainchant, and because of its importance in relation to such crucial events as the development of modal theory

[1] Tillyard 1935

and neumatic notations in European music, the Byzantine chant tradition deserves more attention than it is usually given. It is my hope that the present book will inspire students and teachers to pick up the topic, and that they after digging out again the MMB facsimile volumes from probably rarely visited and dusty library shelves will begin to gain new insights into this fascinating, but little-known, branch of medieval chant.

Finally, I would like to thank all who have helped and encouraged me during the preparation of the book: Maria Alexandru, Christian Hannick, Annette Jung, Kenneth Levy, Ioannis Papathanasiou, Bjarne Schartau, Christian Thodberg, and Gerda Wolfram. Special thanks must be expressed to John Bergsagel and Nicolas Bell, to whom I am in great debt for innumerable corrections and improvements of the English. Kim Broström must be thanked for the careful design of the book, and, lastly, it shall be mentioned that the book is printed with economic support from Aksel Tovborg Jensens Legat, The Carlsberg Foundation, Lillian og Dan Finks Fond, and Union Académique Internationale, an organisation that has generously sponsored the MMB ever since its foundation in 1935.

In view of the fact that unavoidable circumstances have repeatedly delayed the production of this book, the writing of which was essentially completed in 2000, a representative selection of relevant literature since that date has been added in a supplementary bibliography.

Christian Troelsgård
Copenhagen, June 2011

Contents

Introduction

Byzantine notations are used for the chant at religious services[2] following the Byzantine rite. In the fourth century, long before the development of Byzantine neumatic notations, this rite was taken over by the Patriarchate of Constantinople from the church of Antioch. During the centuries of the Byzantine Empire it was further developed; specific monastic and cathedral practices emerged, each with their own musical characteristics, and offshoots of this liturgico-musical tradition can be traced over a huge area up to the present day in Greece, in areas of the Middle East, in Southern Italy, in Russia, in other Slavic countries, and in Roumania. These 'national' traditions have to some extent followed their own course of development, as a result of the various conditions under Byzantine, Persian (in Asia Minor, Syria, and Palestine), Arabic (in Syria, Palestine, and Egypt), Slavic (in the Balkans, Russia, Ukraine, and Easten Central Europe), Lombardic and Norman (in Central and Southern Italy), Venetian (in Crete and Cyprus), Frankish (in Italy, Syria, and Palestine), and, finally, Ottoman rule (in Asia Minor, the Middle East, Mainland Greece, and the rest of the Balkans). However diverse, these traditions have retained or regained contacts with the Byzantine tradition of the Greek language, and often they have persisted in using the Byzantine notational systems, of which the earliest preserved rudiments date back to the eighth or early ninth centuries.

The focus of the present book is the so-called 'Middle Byzantine' (or 'Round') notation, which developed around the middle of the twelfth century and is the earliest stage of Byzantine neumatic notation that continuously and precisely indicates melodic progressions. Nevertheless, there are still many points of this notation on which a modern scholar is forced to admit a certain amount of ignorance because of the quality of the written tradition. The rhythmical system and the precise intervallic structure of the melodies were considered so well-known by the singing communities, that it was unnecessary to describe them in detail in the theoretical treatises. Apart from a few signs for lengthening and shortening,[3] there are no concise instructions on these features in the musical writing. It was not until the beginning of the nineteenth century that a reform of the Byzantine musical notation made it possible to express – with approximate exactitude – such fundamental characteristics as basic rhythm and temperaments of the scales. As in the study of all historical notations, whether neumatic or written on a staff, the interpretation of the medieval Byzantine notations rests in many respects on reconstruction. In the musical culture of Byzantium, the neumes, in Byzantine Greek called *tónoi* or *se̱mádia te̱s mousiké̱s*[4] ('signs

[2] Except for some thirteen 15th-16th century folksongs (Conomos 1979) neither nonliturgical nor instrumental music is preserved in notation from the medieval period.
[3] See §§ 34-39, rhythmical signs.
[4] *Se̱mádion* is the term the Byzantines themselves used in the later middle ages, but apparently *tónos* (in Greek grammar = 'accent') was used quite early to signify 'musical sign' or 'notation' generally (cf. the subscription in MS Milan, Ambrosianus 139 Sup., 14th century; MMB XI, pars suppletoria, 1). Likewise, *tonízein* was a standard term for 'neumating', cf. subscriptions in MSS Athos, Laura Γ 72 and 74 (early 11th cent.) and Patmos 218 (AD 1166). *Tónoi* was also used as designation for a single class of signs, cf. Hannick 1977. 'Neume' (Lat. *neuma*), in the sense of a musical sign, is a Western medieval graecism (cf. Hiley 1993, 345-6) unknown to Byzantine chant manuals, whereas *pneûma* ('breathing', or 'spirit', see below § 24) like *tónos* belongs to grammatical prosody and defines a class of musical signs (*Hagiopolites* §§ 9-12, 14-23, and 26-27).
[5] See below chapters II-IV.
[6] For earlier discussions on the actual use of books in chant performance, see Hucke 1980, 447-8 and Jeffery 1992, 65-91.
[7] cf. Goar 1730, 23 and 351-52; Moran 1986 has not identified any iconographic representations of singers using books with notation in performance.
[8] While *Heirmológia* are generally smaller or even of 'pocket size' such as MS Washington, Library of Congress 2156, measuring *c.*102 x 90 mm, the *Sticheráría* are generally of a somewhat greater size, one of the biggest being Sinai gr. 1231 (AD 1235-6), measuring *c.* 338 x 248 mm (see Appendix, Plate 13). Subscriptions in these 'choir' books include regularly a prayer for the future reader, who, according to the medieval practice of reading aloud, is called '*ho psállo̱n*' ('the one who sings this').

of music'), were complementary to a line of transmission administered by the human memory, and it remains one of the principal research areas to study how these two modes of transmission may have worked together.[5]

Before going into the details of Byzantine notation itself, it is reasonable to look at the actual status of the written documents within the musical culture of Byzantium and specifically to focus on the possible reasons for writing down the music at all. This is necessary because there seem to be important qualitative differences between modern and medieval concepts of musical literacy.[6] From the Late- and Post-Byzantine periods there is strong evidence that the manuscripts were only rarely used in performance,[7] and there are reasons to suggest that this was also so in the preceding period. The generally modest physical dimensions of the preserved medieval chant books containing choral pieces[8] – such collections as the *Sticherárion,* the *Heirmológion,* and *Asmatikón* – did not at all make them well suited for use in choral performance. Furthermore, though it is firmly attested in the monastic ordinals (*Typiká*) of the medieval period that *sticherá* and *heirmoí* were sung antiphonally by two choirs,[9] there are no surviving examples either of an identical pair of *Sticheráría* or of a complementary pair. Rather, the notated music books probably had two other main purposes: instruction and reference.[10] Again, secure evidence for the use of notated books for the purpose of education is late.[11] For the earlier period, it is necessary to work partly with hypotheses, and, ideally, each genre with its specific chant collection or chant book ought to be treated individually, as the genres differ from each other regarding their origin, liturgical function, and transmission. The space available here allows only for the following few comments.

The inclusion of numerous variant neumations in a musical manuscript[12] would be of limited use in a performance situation, and the traditional organisation of the chants according to the system of the eight modes, but against the actual liturgical sequence in which they were actually sung, may also point to their being used for study.[13] Further, the combination of didactic material and chant collections in the same volume suggests an educational purpose. In the so-called *Anthologíai*-manuscripts from the fourteenth century onwards, such a mixture of didactic material and chant book is standard. As a rule, these books are prefaced with a primer of Byzantine chant, the so-called *Papadikḗ*,[14] consisting of brief didactic texts, lists of signs, and exercises. In addition, the *Anthologíai*-manuscripts would indeed have been very impractical as performance books, as they normally include settings for soloist, choirs, and congregation, and vary considerably in contents and order from one copy to another. But the inclusion of didactic material in chant books is much earlier. The *Sticherárion* Paris gr. 261 (AD 1289) includes on fols. 139v-140v some lists of signs, tables with combinations of signs, and a diagram of modal theory, and this is in fact the earliest known block of didactic material explicitly given the designation '*Papadikḗ*'.[15] A combination of rudimentary musical theory, a list of signs and neume groups under the heading '*melodḗmata*' is present also in the Palaeobyzantine *Sticherárion* Laura Γ 67 (10th or early 11th cent.). Some *Heirmológia* also include didactic material, such as Laura Γ 9 (11th cent.) and Grottaferrata E.γ.II (AD 1281), in which a series of verses describes the particular *ḗthos* and aesthetic qualities associated with each mode. It appears also from the preface of the oldest preserved

[9] One such attestation is found in the Evergetis *Typikón*, Dmitrievskij 1895, 612-4. It is recounted that the chant texts were communicated to the singers by means of a special minister, the *kanonárchēs*, see note 24.

[10] There might be a case for regarding the so-called *Psaltikón* as a performance book. This chant collection contains mainly the soloist's chants in the cathedral rite, and the preserved copies, primarily of South Italian origin, are distinguished by a relatively spacious lay-out.

[11] Two 15th-cent. authors, Gabriel Hieromonachos (MMB, CSRM I, ll. 696-701) and Manouel Chrysaphes (MMB, CSRM II, ll. 176-96) characterise 'the perfect singer' and both praise his ability to sing without manuscript and to produce a new manuscript from memory alone. Some notes in a 14th-century *Sticherárion* added by a 17th-cent. student reveal that he used the book for training the interval signs (*metrophōnía,* 'interval-measuring') (Raasted 1966, 49).

[12] Raasted 1981 demonstrates that interlinear variant neumations often formed part of the original manuscript design.

[13] The *oktṓechos* part of the *Sticherárion* and the *Heirmológion* are modally organised by nature, but different principles of organisation developed in both collections, 'cyclic' (each genre through the eight modes) vs. 'systematic' (eight sections, each through all genres) in the *Sticherárion* and the so-called '*Kanṓn*-order' vs. 'Ode-order' in the *Heirmológion*, see Koschmieder 1955, 39. The *Psaltikón*, *Asmatikón* and *Akolouthíai*-MSS present different mixtures of liturgically and modally organised sections. Only few exceptional copies of *Sticheráría* and *Heirmológia* are organised to follow a particular liturgical order.

[14] *Papadikḗ Téchnē* (literally 'priest's manual', also known as *Psaltikḗ Téchnē*, 'cantor's manual'), known from hundreds of copies, the oldest dated of which is from 1336 (Athens, National Library 2458), while a simpler, preliminary version, is found in a *Sticherárion* from the year 1289, MS Paris, gr. 261 (see following note). An early Middle Byzantine fragment of the *Papadikḗ*, St Petersburg, Russian National Library gr. 495, seems also to have belonged to a *Sticherárion* (cf. Gertsman 1984, 229-40). Though not as yet published in a critical edition, different versions of the *Papadikḗ* can be found in e.g. Fleischer 1904, 15-35, and Tardo 1938, 151-161. A general introduction to Byzantine chant manuals may be found in Hannick 1978, 196-218.

[15] Heading fol. 139v reads: Ἀρχὴ τῶν σιμαδί[ων] τῆς παπαδ[ι]κῆς τέχνης.

Byzantine treatise on music, the *Hagiopolítes*, that it originally was designed to accompany a collection of chants, possibly so-called *tropária* composed by Kosmas and John of Damascus (both 8th cent.).[16]

In the discussion of the relation between notation and performance, another feature, namely the practice of cheironomy, literally 'hand law', must be taken into consideration. The so-called 'Subsidiary signs' (§§ 32-51) of the Middle Byzantine notation carry in many theoretical treatises the alternative designation 'cheironomic signs'. Though it is beyond question that there is some connection between the written notation and cheironomy, the actual function of cheironomy in Byzantine chant is not clear.[17] It is reported that these gestures or movements were not performed with the arms, but with the hand and the fingers.[18] Moran has identified a number of fourteenth-century frescoes and book miniatures that apparently depict groups of many singers who perform hand and finger movements simultaneously, and as cheironomy was also used in solo performance, a simple identification of cheironomy with direction or conducting cannot be maintained. The fifteenth-century treatise by Gabriel Hieromonachos describes two distinct functions of cheironomy: first he states that any singer will perform better and more expressively when doing cheironomy simultaneously, and secondly, the choir will better stick to the unison if all singers follow the cheironomy of the leader, the *doméstikos*.[19] It seems that cheironomy was a kind of non-written or 'gestic' notation, helping to recall various melodic formulae (*théseis*) in the singer's memory,[20] but apparently the dynamic qualities of single interval signs could – at least in the later period – be 'cheironomised' too.[21] The evidence for the precise nature and function of cheironomy is conflicting also in other respects. For example is it said in a twelfth-century monastic ordinal (*Typikón*) to be used only at very festive occasions, and then only in connection with the more difficult melismatic chants of the cathedral style,[22] while another source refers to it being used in a performance of apparently simple chants, alternating between a soloist and the congregation.[23]

Cheironomy was developed and used already in the period of Palaeobyzantine notations, and it continued in its own existence even after the introduction of the qualitatively different diastematic Middle Byzantine notation. This might be one of the reasons why the late theoreticians had such profound troubles in explaining this old practice. Whatever the precise functions of cheironomy were, choral singing without direct support of written notation seems to have been prevalent throughout the middle ages, often in combination with cheironomy as a kind of 'gestic notation'. Another usage that facilitated choral singing without notation was the so-called *kanonárchema* practice, according to which a certain chant official of lower rank, probably a young person with good eyes, the *kanonárches*, was placed between the two choirs in the middle of the church, and recited the chant texts phrase by phrase from a text book.[24]

Thus, the notated chant books in the earlier period of Middle Byzantine notation can be described neither as primarily 'descriptive', denoting a pre-existent performance, nor 'prescriptive', as if the notation was used to direct the actual performance.[25] Rather, they might have had a 'paradigmatic' character, providing examples and patterns of how to perform a given chant text in accordance with the tradition. This does not imply, however, that the extant books written in the Middle Byzantine notation reflect a variety of different representations that

[16] *Hagiopolítes*, § 1. The work includes portions of Ancient Greek musical theory along with teachings on the modal system, Palaeobyzantine and Middle Byzantine notations. MS Paris, gr. 360 (early 14th cent.) is the only extant source, but it is clear from the remaining Byzantine treatises that the *Hagiopolítes* was a very influential compilation.

[17] See Hucke 1979 and Moran 1986, 38-47.

[18] cf. descriptions by Goar 1730, 24 and by the western 12th-cent. traveller Odo of Deuil, 68.

[19] *Gabriel Hieromonachos*, lines 386-99; see also *Ps.-Damaskenos*, l. 392.

[20] This mnemonic function of cheironomy was first suggested by Wellesz 1927, 43.

[21] The actual finger positions for the signs *íson* and *oxeía* are depicted in a sketch of a now lost manuscript illumination, but might have belonged to the 14th-cent. MS, Athos Koutloumousiou 457, and these are the only two hand signs tentatively identified in the iconographic sources (Moran 1986, 44 sqq.). This identification is probably supported by a 14th-century treatise ascribed to a certain Michael Blemmydes (Tardo 1938, 245) that describes the finger positions of a few signs along with a symbolic interpretation.

[22] Di Salvo 1957 suggested that cheironomy was connected with the melismatic cathedral practices of the *Psaltikón* and *Asmatikón*.

[23] The Evergetis *Typikón*, ed. Dmitrievskij 1895. The music of the actual services is discussed by Harris 1992.

[24] For post-medieval evidence on the *kanonárches*, see Goar 1730, 23 and 351-52, paraphrased by Hucke 1980, 448. On the *kanonárchema* practice in the middle ages, see Troelsgård 2000. The text books used for prompting by the *kanonárchai* were most likely the *Menaía, Triódia, Pentekostária,* and *Októechos* (*Parakletiké*), that contain the choral pieces with a punctuation corresponding closely to that of the notated chant books. A few exemplars, however, have notation for a selection of chant pieces, namely those belonging to the *Sticherárion*, and this type can thus be compared to the 'full breviaries' of the West.

[25] The dichotomy 'descriptive/prescriptive' notation was introduced in musicology by Seeger 1958.

might equal recordings of 'oral' performances. In the 'marginal' repertories,[26] consisting of pieces that for various reasons are included only in few copies, the written versions were probably to a higher degree dependent on actual performance tradition or on composition, while the neume text was faithfully copied from one generation of manuscripts into the next in the 'central' parts of the repertory. Even down to the variant neumations marked with red ink, one can observe a dependence on manuscript tradition rather than on 'oral tradition' or 'improvisation'.[27] Therefore, the core of the manuscript tradition embodied the essence and details of the earlier Palaeobyzantine traditions, in order to present old and authoritative versions of the chants, worthy of imitation.

Up to around 1300, essential repertories such as Psalm-verses and many Ordinary chants for the Byzantine Divine Liturgy remained generally outside the written tradition, and when they eventually were written down, they retained in many cases a paradigmatic character, presenting alternative melodies or displaying only a single verse, from which the melodic model could be applied to the subsequent series of verses to make the performance complete according to liturgical demand. Alongside the traditional repertories, new original pieces in the so-called kalophonic style, with composers' names attached, appeared towards the end of the thirteenth century,[28] and in these repertories the notated manuscripts seem to have achieved another status, closer to modern concepts of using musical notation. Thus, as Levy observed, the Middle Byzantine notation, which in the twelfth century developed as a refined instrument for preserving the traditional Byzantine genres, eventually became a "most powerful catalyst"[29] in the development of new musical styles.

[26] The expression "marginal repertory" was coined by Strunk 1963. In cases where no written *Vorlage* was at hand, the few resulting written exemplars were likely to include a greater range of diversity than seen in the standard repertories. While the core of the *Sticherárion* stayed relatively stable for a long period, fewer copies of the *Heirmológion* seem to have been produced from the 13th century onwards, with an increasing diversity as a result.

[27] cf. Raasted 1981, 999.

[28] Kalophonic practices seem to have existed earlier, probably as artistic improvisations influenced by the melismatic genres. See below § 79.

[29] Levy 1976, 288.

I The chant texts

1. Words and music

In Byzantine chant, as in any medieval liturgical chant tradition, the music was primarily considered a vehicle or musical adornment of the sacred texts. The Book of Psalms and other poetic portions of the Bible form the basis for the chant at the Byzantine Offices and Divine Liturgy (*he̲ Theía Leitourgía*, the Byzantine Mass). The majority of chants transmitted in the musical manuscripts of the Middle Ages, and probably the chant types for which notation was eventually invented, belong, however, to various classes of non-scriptural poetry, which collectively are designated '*tropária*'.[30] These are sung as 'refrains' between the verses of Psalms and Canticles in the Office or were used as independent 'hymns' at Divine Liturgy and in processions. Scattered among this huge hymnographic repertory, one finds Byzantine contributions to world literature, such as the ***kontákia*** by Romanos the Melode and the ***kanónes*** by John of Damascus, together with short, anonymous ***tropária***.

Words and music are closely interlocked in Byzantine chant; in principle they are conceived together, adapted to each other in various conventional patterns. This is evident also from the concept of the classical Byzantine poets/composers as 'melodes', a word composed from *mélos* ('melody') and *o̲dé̲* ('a chanted text').[31] Wellesz described the relation between words and music as follows:

"Wie eng sich das Verhältnis von Wort und Ton gestaltet hat, wie sehr der melodische Ausdruck durch den Text bestimmt ist, erkennt man wenn man in den Handschriften die Neumenschrift mit ihren dynamischen und rhytmischen Zeichen im Zusammenhang mit den Worten und Sinnbedeutungen betrachtet."[32]

Given this intimate relationship between text and music, it is of course the ideal to know the Greek language before starting to work with Byzantine melodies. But this should not prevent anybody without this ability from starting to study the neumatic notation. In the following, I shall comment briefly on a few important points pertaining to the text/music relationship. To help readers without knowledge of the Greek language, the Greek is in most cases transliterated and furnished with accents on words of more than one syllable.[33]

2. The language of the chanted texts

The chant texts are written in ecclesiastical Greek, a branch of the so-called *Koiné̲*, the common Greek language of the Hellenistic and early Christian era. It was cultivated first by the Church Fathers, and the roots of the Byzantine chant texts should be sought in the poetic passages of their homilies and in the scanty remnants of early Christian

[30] The standard index to this repertory contains more than 60,000 entries (see ***Initia***) An ***addendum*** for ***Initia*** is being prepared (information from Enrica Follieri, 1996). A bibliographic guide to Byzantine hymnography was published by Szövérffy 1978-79. Wellesz 1961 gives a brief introduction to the most important genres.

[31] In a narrower sense *o̲dé̲* has the meaning of a biblical 'Canticle'.

[32] MMB, Transcripta I, p. XXXII.

[33] The Greek vowel ω is rendered as underlined *o̲* and η as underlined *e̲*. Alone upsilon (υ) is transcribed as *y*, but the diphthongs ευ, ου, and αυ become ***eu***, ***ou***, and ***au***. Notice also the following consonants: θ = *th*, φ = *ph*, χ = *ch*, ψ = *ps*, γγ = *ng*, γκ = *nk*, γξ = *nx*, and γχ = *nch*.

hymnography, Greek and Syriac. The grammar of ecclesiastical Greek is almost identical to that of ancient Greek, while the medieval pronunciation corresponds more or less to that of Modern Greek.[34] Already in the era of the melode Romanos (6th cent.), stress accent alone governed poetic composition, and any difference in pronunciation between the three accent signs (´, `, and ˆ) and the two 'breathings' (ʽ and ʼ) of ancient Greek had since long disappeared, even if the distinction was retained in writing as a mere convention. Musical manuscripts were, however, normally written without these diacritical signs. This was a practical solution, as the presence of both musical signs and diacritical signs above the Greek text might lead to confusion, especially since some of the musical signs resemble the grammatical accents.[35]

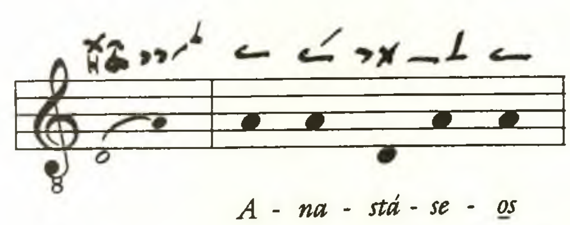
3. Accents and music

Textual accents are often reflected in the musical line. Such melodic accentuations may be described as 'pitch accents' or 'psalmodic accents',[36] performed normally as a rise of the melody:



Example 1
(Beginning of *sticherón "He aparché tes hemón soterías"*, first mode; MMB XI, fol. 6v)

but a kind of 'reverse' pitch accent is also seen, especially in the first and fourth modes:



Example 2
(Beginning of *heirmós "Anastáseos heméra"*, first mode; MMB II, fol. 5v).

Another way of expressing the text accent musically is the 'dynamic accent'. The musical sign corresponding to the accented syllable has given a special dynamic quality by adding one of the 'dynamic' interval signs (see below § 25):



Example 3
(The phrase *"cháriti mállon egálakti"*, from *sticherón "Ek rízes agathés"* in second mode; MMB XI, fol. 3r, cf. slightly different version in *Appendix*, Plate 10)

[34] It is often seen in the manuscripts that the chant texts interchange the vowels *i*, *e* (eta), *y* (upsilon), as well as the diphthongs *oi* and *ei*, because they all represent the sound "I" (as in Eng. 'ill'). Generally, it appears that the scribes of musical manuscripts were not as well-trained in orthography and grammar as average literary scribes. For a general description of Byzantine Greek, see Browning 1983.

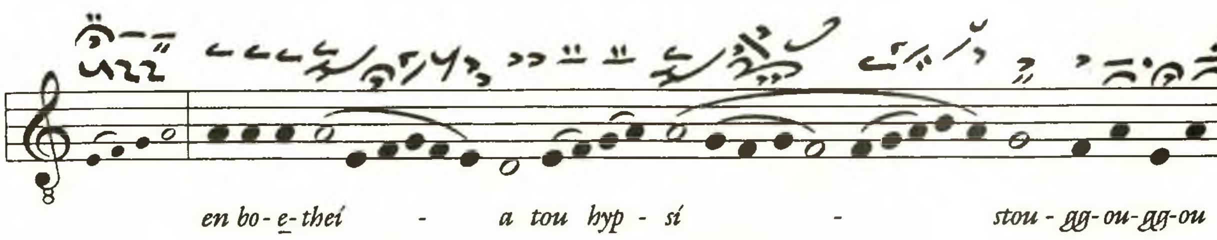
[35] In one of the varieties of Palaeobyzantine musical notations (the Chartres notation, see below § 14) we observe a tendency to include text accents, but to avoid confusion the musical signs are often written in red ink, as for example in MS Athos, Agiou Paulou 102 (10th cent.); also in lectionaries, the notation is often drawn in red (see below § 12, Ekphonetic notation). Occasionally, a manuscript that was originally written as a textbook had its accents erased or partially converted into a musical notation, as for example MS Paris gr. 1570 (AD 1127).

[36] The terms are inspired from Apel 1958.

Finally, it is reasonable to speak of a 'sustained accent' expressed by either prolonged duration on one pitch, on one pitch followed by an extra interval sign, or by the addition of a whole series of notes, a melisma:

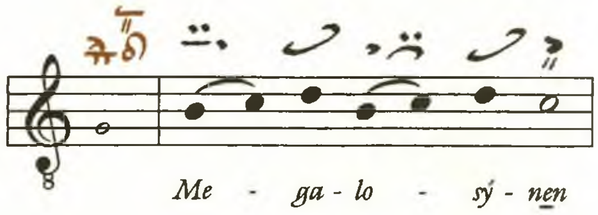


Example 4
(Beginning of *sticheȓón "Epéste̱ he̱ eísodos"* in first mode, MMB XI, fol. 1r)
or



Example 5
(The phrase *"en boe̱theia tou hypsístou"*, Ps. 90.1^{b}, from an *alle̱luiárion* in second plagal mode (cf. Thodberg 1966, 220), Patmos 221, fol. 52r)

Sometimes, a 'secondary' accent (Germ. *Nebenakzent*) – a facultative stressing of the second syllable before or after the accented syllable of a word – plays a role in the melodies. Thus, the word *eísodos* in Example 4 (musically *eísodós*) and *megalosýne̱* is in the following example sung as if an extra accent were placed over its second syllable (*megálosýne̱*):[37]



Example 6
(Beginning of *heirmós "Megalosýne̱n dóme̱n kai dóxan"* in fourth plagal mode, MMB III, fol. 58v)

It is to be noted that 'small words' such as the definite article and many particles normally go musically unaccented, and that the melodies may combine several of these accentuation principles.

In simple psalmody and in the syllabic styles such as the *stiche̱rárion* and the *heirmológion*, the pitch accent is often prepared through a lowering of the melody or through specific introductory motives covering a number of unaccented syllables. Consequently, textual phrases with a similar number and distribution of accented syllables tend to have identical melodies within a given mode and genre.[38] Such a formulaic economy seems to play a significant role in Byzantine chant, as shown in the following example with focus on bc accentuations in the *stiche̱rárion*:[39]

[37] This flexible device is often exploited in the *tropária* for the *Kanónes*, where several stanzas are sung to the same melody. Often the secondary accents fit into binary rhythm patterns.
[38] cf. Raasted 1992.
[39] Wellesz 1961, 349-52, presents similar examples.



Example 7
(Synoptic table of various phrases with **bc** accent in *sticherá* of first and first plagal modes from the *sticherárion* MMB XI. Total count of syllables and accentuation pattern are indicated with numbers)

4. Syntax and music

Byzantine chant has a formulaic character, and, especially in the cadences, melodic formulas recur. The beginnings and endings of these recurrent melodic elements often coincide naturally with textual incisions of various importance, ranging from weak caesuras delimiting single words or phrases to full stops at the end of main sections, or at the very end of the chant.

A number of melodic techniques may be found in the various genres for adapting one textual and musical section to suit the next

one. This often has the effect of clarifying the syntactical coherence of the whole. These melodic features can be described as 'leading-on' elements,[40] which attach to or even replace a resting cadence. In this function, they resemble the *apechémata* (see § 63), melodic 'adaptors' that are squeezed in between the modal intonations and the starting notes of the melodies proper:



Example 8
(Resting *deúteros* cadences and various leading-on elements from the *Sticherárion* MMB XI)

5. Automelon – Proshomoion

The production of new texts to old melodies and the use of model melodies for production of *contrafacta* (Gk. *proshómoia*) is a very old and basic musical principle in many genres of Byzantine chant. According to this practice, the 'new' text observes meticulously the number of syllables (*isosyllabía*) and the distribution of accented and unaccented syllables in the model melody (*isotonía*).[41] Sometimes, the *contrafactum* (*proshómoion*) even retains the syntactical structure of the model and may also reflect its wording in various subtle ways.[42]

6. Singing in syllables

The chant texts are written as syllables rather than as words. Some scribes make all syllables end with a vowel, and attach all consonants to the following syllable; that is why we may come across syllable divisions as like *ou-ke-stí* instead of *ouk es-tí* ('is not').

If a syllable carries many notes, its vowel is, as a rule, repeated on the parchment a sufficient number of times to fill out the space taken up by the neumes. Such repetitions of vowels may stretch over several lines, though in some genres interrupted by the insertion of X (the Greek letter *chi*) or a ligature of upsilon on the top of omikron, (corresponding to the Greek diphthong '*ou*'). This practice supports the singing of the melisma and signals a musical segmentation of it, especially in the so-called *Psaltikón* and *Asmatikón* styles (§§ 77-8).

[40] cf. Raasted 1958, 541.
[41] Occasionally, there are deviations in the metrical schemes of the indicated model melody and the *proshómoion*. These were probably easily 'repaired' in performance, where a syllable with more notes could be split up into two syllables in the contrafact, an extra *íson* sign could be squeezed in, or the vacillation between primary and secondary accent could be exploited. However, a relatively high percentage of 'misaccentuations' (*paratonismoí*) is seen in the strophes, *tropária*, by the great Palestinian *Kanón* poets, Kosmas of Maiouma, John of Damascus, and Andrew of Crete (7th-8th. cent.).
[42] This can be observed for example in the *tropária* for the *Kanónes*, which in their wording may reflect their model chants, the *heirmoí*, which in turn reflect the phrasing of the biblical canticles for which they were originally designed as 'refrains' (cf. Velimirović 1973).

Preliminary remarks on the Byzantine notations

II

7. Chant transmission before the neumes

If one should guess at the reasons for early medieval churches to establish a certain corpus of chant texts, and to produce lists of chants[43] or even neumeless chant-books, two main objectives come into mind. One of these might have been to ensure that the repertory of chant texts was uniform and of a certain technical standard throughout a given Church province, another that chant texts used were in harmony with orthodox catholic Christian doctrine.[44] Following the first of these assumptions, it is not a great step to expand the control of chant repertories to covering the musical aspects as well, in order to stabilise the oral transmission and in the hope that the various performances would converge towards a given melodic ideal.

In early chant transmission, the principle of adapting contrafacta (*proshómoia*) to model melodies (*autómela*) was one method of administrating the chant tradition by means of writing. This procedure was probably introduced into Byzantium following a tradition of early Syrian chant where one also finds an indication of the first line of the model melody above each chant text.[45] In a few cases, words of secondary lines from the model melodies are also found in Byzantine chant books, as an interlinear mnemonic aid.[46] Such procedures stabilised the chant transmission despite the absence of a musical notation.

The earliest remnants of Byzantine chants written on papyrus from the fourth to seventh centuries might in their mere textual division – as indicated by the punctuation – reflect a kind of musico-syntactical division, different from a strictly syntactical one; this had some importance for the transmission of the melodies.[47] It seems, however, that these traditions were of a local character, and it was not until the end of the turbulent period of Iconoclasm and around the restoration of Orthodoxy in 843 that a basis for the spread of more uniform Byzantine chant-books was established. The monasteries contributed substantially to the process of re-establishing and consolidating the Byzantine church and society, and very likely it was due to monastic influences that new liturgical books and collections of chants were brought into circulation.[48]

The introduction of a modal system divided into eight categories, the *októechos*, can be seen as yet another and crucial move in the direction of regulating the chant repertories by means of writing. Papyrus fragments from the Egyptian/Palestinian area evince occasional

[43] See Treu/Diethart 1993, 95-101.
[44] These ideas seem to be already expressed in the fifteenth canon of the Council of Laodicaea in the late 4th cent.: "... apart from canonical cantors, who ascend the ambo and chant from parchments, no others are permitted to sing in the church".
[45] On the concept of 'model melody', see Haas 1995.
[46] cf. Strunk 1964.
[47] It has not been proved that the occasional appearance of various interlinear dots and strokes in Christian hymns preserved on papyrus (cf. v. Haelst 1976 and Sarischouli 1995) has any connection with the later notational systems of Byzantium.
[48] cf. Taft 1992, 52-66.

examples of the eight-mode system already from the sixth century,[49] while the *októechos* system is fully implemented in the earliest collections of chant texts preserved on parchment.[50] Modal categorisation implied a grouping together of melodies that were considered to share melodic qualities, a procedure that may have inspired the analogous creation of the earliest 'tonaries' in Western plainchant in the late eighth and ninth centuries.[51]

It is an open question how the introduction of the eight-mode system affected the Byzantine melodies, and whether it was introduced together with the formation of a new chant collection or a redaction of an old one. Eventually, psalmody, various classes of *tropária*, the *kontákia,* and other early chant types were adapted to the system. Byzantine lore maintained that the invention of the *októechos* was due to St. John of Damascus, active in the Palestinian Mar Saba monastery at the beginning of the eighth century.[52]

8. Byzantine and Western neumatic notations

The Greek Orthodox Church and other churches of the Byzantine rite still use a musical notation which is radically different from both modern staff notation and the four-lined square notation of the Roman liturgical books. In fact, the difference between the modern Greek notation[53] and contemporary square notation is so great that one would hardly consider the idea that the two notations were originally based on similar principles. It is necessary to go back to the tenth century to observe a certain similarity between the principles of Western staffless neume notation and the Palaeobyzantine neumes: both systems are 'adiastematic', i.e. they do not precisely indicate the pitch on which a neume group begins, neither do they precisely indicate the size of intervals. Instead they may give some vague hints as to the 'ups' and 'downs' of the melodic flow within the neume groups, and occasionally an additional sign informs about 'high' or 'low' positions. The main capacity of the early notations seems to have been a record of the relation between melody and text, including the indication of specific dynamic qualities and some traditional (formulaic) melodic movements. The notations functioned only as mnemonic devices, while the reader, whether a singer, student, or church official, had to be familiar with the musical 'language', the aesthetics, the individual genres and their formulas, and, most likely, a *corpus* of melodies remembered in details, as individual chants.[54] This presupposes – in both East and West – an intricate co-operation of musical writing and musical memory. It should be noted, however, that these similarities do not necessarily imply that the Eastern and Western systems of notation in any narrow sense had a common origin, although some kind of interaction cannot be excluded either, analogous to the formation of a modal system in the West with clear Byzantine inspirations. The similarities between neume names such as the Byzantine *kýlisma* ('rolling') and the Latin graecism *quilisma,* and between a neume shape like the Byzantine *oxeía* (Gk. 'acute accent', 'sharp') and the Gregorian *virga* (Lat. 'stick') do not allow for easy conclusions on the interrelationship.[55]

9. The unknown origins of Byzantine notations

We do not know exactly when and where the written tradition of Byzantine music began, and likewise it has not been shown whether the lectionary notation (also called 'Ekphonetic' notation, § 12), or the

[49] Treu/Diethart 1993, 28-53.

[50] Examples of early parchment codices written in uncials are the 7th-8th-cent. Gospel lectionary Sinai gr. 212 (modal ascriptions of the 'Morning Gospels', Husmann 1976, 172-4), the 8th-9th-cent. Sinaitic *Paraklitikē* or *Tropológion* (fragments preserved in Sinai gr. 776, Sinai gr. 1593, and London, British Library Add. 26,113, Hannick 1972), the Princeton *Heirmológion* palimpsest, Garrett 24, 8th-9th cent. (with rudimentary melodic ('Theta') notation, Raasted 1992^2, Skemer 1996), and the so-called 'Codex Sinaiticus Liturgicus' of 9th cent. (containing chants texts for Divine Liturgy with modal ascriptions, St Petersburg, Russian National Library gr. 44, Thibaut 1913). The Georgian and Armenian receptions of the early Jerusalem chant repertories (see Metreveli 1981 and Jeffery 1994) offer interesting material on early modal categorisations, but as the preserved manuscripts date from the 10th c., later influences from the Byzantine tradition must be taken into consideration.

[51] see Hiley 1993, 325-35.

[52] see Hannick 1972, 43.50 and Alygizakis 1985, 105-13.

[53] see below § 28.

[54] cf. Haas 1997, 314-15, and Levy 1998, 195-213.

[55] Name, shape, and function seem to go apart in all cases tested so far, see e.g. Haas 1975 and Levy 1998, chapter 5.

melodic notation was the first to be used.[56] The earliest preserved lectionaries with notation are from the eighth to ninth centuries,[57] while the oldest witnesses of the melodic notations stem from the early tenth century. Both types, however, most likely developed somewhat earlier; in fact, rudiments of the melodic notation appear already in a source from the eighth century (see §13). In analogy with the importance of that period in the development of the Byzantine liturgy, it is not unlikely that the eventual development and application of the melodic notation took place towards the end of Iconoclasm in the monastic millieu of Palestine and/or Constantinople, and that the developments were connected with the introduction of a modal system.

Byzantine lore generally ascribed the invention of the neumes (and cheironomy) to St John of Damascus and Kosmas of Jerusalem (early eighth century),[58] while a few Late- and Postbyzantine treatises, probably stimulated by migrating portions of Greek musical theory of late antiquity, even hold the ancient Alexandrian scholar Claudius Ptolemaeus (second century AD) to be the inventor![59]

The general outlines of the subsequent development of the melodic notations will be treated in the following paragraphs, while the succesive stages and varieties of Byzantine noation are presented in chapter III.

10. From 'adiastematic' to 'diastematic'

The step from 'adiastematic' to 'diastematic' notation, where the exact pitch of each tone is indicated, was completed with the so-called 'Middle Byzantine' (or 'Round') notation. Around the middle of the 12th century, this notation combined the neume shapes of the developed 'Coislin' notation with some principles of relative pitch indication. But the basics of the Middle Byzantine notation differ radically from what we encounter in Western notations. The Western diastematic notation based on the principles of a 'co-ordinate system' – whether heightened or placed on one, two, four or five lines – contains direct information on the pitch of every single note, whereas the pitch of each note in Byzantine diastematic notation is defined by a numeric description of the interval distance from the note immediately preceding. The diastematic component of the Middle Byzantine notation can thus be described as *digital*[60] or *relative.*[61]

The distance between two notes (the interval) is expressed by the number of steps (*phōnaí*, literally 'voices') upwards or downwards, and a musical interval sign is described as 'having so and so many *phōnaí*'. But the Middle Byzantine notation is silent about the precise size of the steps involved: one step (*phōnḗ*) may represent a whole tone, a semitone, a microinterval, or possibly also an augmented tone,[62] depending on the indicated starting note ('intonation', see §§ 55-63 and Quick Ref. Card) and the melodic progressions associated with a given mode.

11. The problem of 'scales' and tuning

This ambiguity of the step concept is one of the major problems in the interpretation of medieval Byzantine notations. It was not until 1821, when a treatise on the thorough revision of the notation carried through a few years earlier was published,[63] that the sizes of intervals were described with precision, borrowing the division into three different *genera* ('diatonic', 'chromatic', and so-called 'enharmonic')[64] from

[56] Though the distinction was noted earlier, e.g. by Thibaut 1913 using 'Ekphonetic' and 'Hagiopolite' notations, the neutral terms 'lectionary' vs. 'melodic' notations were coined by Levy 1980.

[57] cf. Thibaut 1913, 34-6. Engberg 1995, 55 dates the occurrence of the Ekphonetic notation right after the restoration of images in AD 843 and associates it with the intense literary activities of the period and the thorough introduction of grammatical accents in the text manuscripts.

[58] e.g. *Ps.-Damaskenos*, lines 385-7.

[59] e.g. *Gabriel Hieromonachos*, lines 188-9, and *Ps.-Damaskenos*, lines 47-9.

[60] Levy 1980, 554.

[61] The oldest sign tied to the 'relative' or 'digital' principle is the *íson,* indicating repetition of the preceding pitch, represented as a horizontal stroke in the Chartres notation, though absent from the most archaic stages of both notations. *Olígon* ('little', 'modest'), signifying one step up with a 'neutral' dynamic in the Middle Byzantine notation, had apparently no exact interval value in the Palaeobyzantine notations (Floros 1970, 1, 135).

[62] On chromaticism, see below § 72.

[63] The reformed system, "The New Method" (*Hē Néa Méthodos*), is often called *Chrysanthine notation*, so named after Chrysanthos of Madyta, one of the 'Three Teachers' (see below § 16), first presented by Chrysanthos 1821.

ancient Greek music theory. It still remains a matter of dispute how far back in time this Neo-Byzantine system of modes, scales and intervals can claim its validity.

There is every reason to believe that the activities of the Three Teachers had a paedagogical aim; their main purpose was to clarify the existing tradition rather than to introduce a new way of singing. Another goal was probably to train the church singers in the art of ornamentation or 'interpretation' (*exḗgēsis*) of the older repertories and the composition of new melodies in various styles. In addition, the reform took place in a period where the national movements started to gain influence, and a desire to strengthen the Greek Orthodox Church through a uniformation of the Church singing is obvious. But the reform makes sense only if the essence of the musical tradition of the immediately preceding stage was preserved without major changes. The crucial points are, then, to what degree the melodies from the eighteenth and the beginnning of the nineteenth centuries had preserved the characteristics of medieval traditions – and what changes in the structure of scales and intervals could have taken place during the approximately 650 years in which the Middle Byzantine notation was used. Such changes can not be read directly out of the musical manuscripts, due to the vagueness connected with the notion of steps (*phōnaí*), and due to the possibility that a basically unchanged notational system is interpreted differently at various times.[65]

There is literary evidence that the Byzantine chant interacted with the Arabo-Persian and Ottoman music cultures during the Byzantine and Postbyzantine periods,[66] but on the other hand it is unlikely that the medieval chant traditions were irreparably broken at any single point. In addition, we know very little at present about the vocal aesthetics of Byzantium, or how much the musical traditions – before the fall of Constantinople – shared with the contemporary folk music traditions, Turkish (Ottoman) art music,[67] with other Mediterranean musical cultures, and with Western chant respectively.[68] Therefore, it would be a methodological misunderstanding to use one reconstruction, such as that of Western medieval chant, to check the authenticity of another, such as Byzantine chant, without a thorough clarification of the principles on which the two actual reconstructions rest. On the other hand, it is not tenable that the Byzantine chant tradition stayed totally unchanged over the centuries.[69]

Regarding the temperament of the scales, the New Method treatises contribute some valuable information about the tradition of the Postbyzantine period, and this is one of the sources we can use for establishing a plausible picture of the state of affairs in earlier times. We can be fairly certain that the scale system differed from our equally tempered scale, and to suggest an idea of a kind of tuning that could have been current, the following table (calculated in cents) compares the Chrysanthine and the equally tempered diatonic scale from **D-d**:[70]

[64] The concept of these three genders is absent from Byzantine and Postbyzantine treatises on the ecclesiastical chant tradition. The word "*enharmónios*" does occur in a 17th-cent. treatise, but not in a technical sense (Zannos 1994, 109-10). On the Byzantine transmission of ancient musical theory, see Richter 1998.
[65] Widdess 1992, 223-4.
[66] cf. Zannos 1994, especially 30-34.
[67] A passage in a Byzantine chronicle of the 15th century transmits an anecdote about two Greek cantors who, using the Middle Byzantine notation, without difficulties wrote down a Turkish '*tesneaion*'(?) and – to the great astonishment of the listening Sultan – immediately thereafter reproduced the chant "even better" than at the first performance, *Ékthesis Chronikḗ*, 589.
[68] Throughout the middle ages there is scattered evidence of musical contacts between the 'Latins' and 'Greeks'. With few exceptions, the ancient literary *topos* of describing a foreign chant tradition as sounds produced by animals was reserved for peoples outside Christendom. Inside the civilised world, a manifest amount of mutual admiration can be seen, for example in authors such as Amalarius of Metz (describing the celebration of Epiphany Vespers at Hagia Sophia, early 9th cent.), Notker Balbulus (regarding Charlemagne's translations of Byzantine *tropária* for the Octave of Epiphany, early 9th century), Paulus Diaconus (concerning bilingual processional singing at Naples, early 10th cent.), and the Byzantine historian Ioannes Kinnamos (describing the reception of emperor Manouel Komnenos in Hungary with *tropárion*-singing under king Stephen III in the 12th century). Though outdated and speculative in many respects, Wellesz 1947 is still informative on Byzantine-Western relations. See also Strunk 1964, Huglo 1967 and Troelsgård 1991.
[69] see Hannick 1996.
[70] cf. Chrysanthos 1832, 8. The octave is divided into 68 equal parts according to the distantial principle (as opposed to the proportional), and three different intervals are used: major whole tone (12 parts), minor whole tone (9 parts), and semitone (*eláchistos tónos*, 'smallest tone', 7 parts). The interval sequence from **D** (Pa) and upwards is thus 9-7-12-12-9-7-12.

	Chrys.	Equal.	Deviat.
d / *pa*	1200	1200	0
c / *ne*	988	1000	-12
b / *zo*	865	900	-35
a / *ke*	706	700	+6
G / *di*	494	500	-6
F / *ga*	282	300	-18
E / *bou*	159	200	-41
D / *pa*	0	0	0

It is especially worth noticing that the pitches **E** and **b**, below the semitone steps, are considerably lower than in the equally tempered scale. It is also very likely that various melodic progressions called for alterations of certain steps, and that chromatic progressions were used, especially in the *deúteros* modes (second authentic and plagal modes, and the variety of second plagal called *nenanó*). For a discussion of chromaticism and melodic alterations, see below §§ 66-72.

III The varieties of Byzantine musical notations

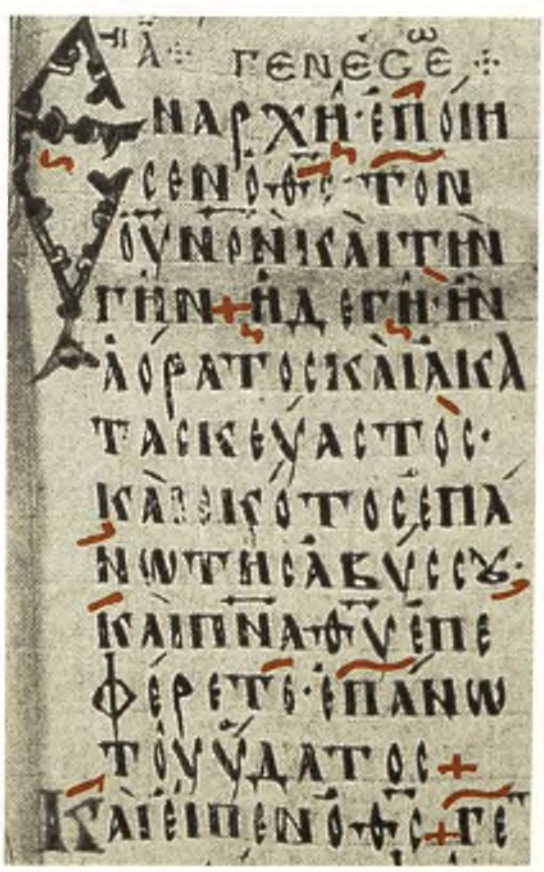
Palaeobyzantine notations

12. Lectionary or 'Ekphonetic' notation

For the solemn cantillation (*ekphṓnēsis*)[71] of Biblical readings ('pericopes') a special kind of notation, the so-called 'Ekphonetic notation'[72] was used. The Biblical text is divided into small units, the singing of which is indicated by pairs of signs added, normally in red ink, above or below the Greek text, at the beginning and end of each phrase ('comma'), and thus it might ultimately have a connection with the punctuation signs of Ancient Greek grammar. Tracing its roots to Constantinople, the Ekphonetic notation might have helped to give a uniform style to the solemn cantillation of the Scriptures, which was perhaps especially important in areas with a weak Greek literacy.[73] The exact musical implication of these signs is not known, though a unique exercise of Ekphonetic signs in the tenth- to eleventh-century Old Testament lectionary Sinai gr. 8 presents the names of the neumes, adapted to short melodic phrases written in a mixture of Palaeobyzantine melodic notations. A few Ekphonetic signs share their name and/or shape with neumes of other Palaeobyzantine notations, but their functions seem in most cases to be of a different nature.[74]

Example 9

(Genesis 1.1 sqq., solemn reading for the Christmas vigil, Sinai gr. 7 (10th-11th cent.), fol. 2r, Biblical majuscule script with Ekphonetic notation drawn in red ink)



[71] Alternatively, in the current Gospel and Epistle readings of the daily Office, a simpler style, *chýma* ('pouring, streaming'), was applied, apparently without the use of notation (Dmitrievskij 1895, 543).

[72] For general reading on the Ekphonetic notation, see Høeg 1935 and Engberg 1995. An edition of the Old Testament readings with ekphonetic notation can be found in MMB, Lectionaria I,i,1-6 (edd. C. Høeg and G. Zuntz) Copenhagen 1939-70 and MMB, Lectionaria I,ii,1-2 (ed. G. Engberg), Copenhagen 1980-81.

[73] Engberg 1995, 53-5.

[74] This is true of the signs *oxeîa* (and doubled, *oxeîai*), *bareîa* (and doubled *bareîai*), *apóstrophos*, *kentḗmata*, *kremastḗ* (similar to *petasthḗ*), and *teleía* (similar to *staurós*). For possible connections in the function of the signs, see Strunk 1966, *Essays*, 223, Floros 1970, II, 210-3 Engberg, 1995, 50-2, and Troelsgård 1995, 95-6.

13. Theta notation

The most primitive way of rendering Byzantine melodies proper in writing is the 'Theta' notation and related types.[75] Basically speaking, this kind of notation is used to mark off places of melismatic ornamentation in otherwise syllabic or quasi-syllabic melodies. A given sign, sometimes just an accent or a double accent, but later often the Greek letter *thḗta* (θ, for '*thésis*' or '*théma*', meaning 'formula' or 'cadence') is put on the top of a certain syllable. The rest of the text carries no musical signs. The purpose of this type of rudimentary notation is disputed. In performance it would be of little value, except for reminding the potential reader/singer of the positions of these formulaic cadence points. Perhaps it was more suited to the use of poets writing new texts, *tropária*, and using the melodies with Theta notation as models, which would indicate an important point in the melodic structure of the original melody (*autómelon* or *heirmós*). Consequently, it would be easier to produce the new text with a correct musico/syntactical layout paying respect to the placement of the traditional melismas.[76] In certain regions, the principle of Theta notation continued to be used even when more developed types of melodic notation had become available.[77]



Example 10

(Phrase from *heirmós* "*Hymnṓse*" in the second mode: a) Theta notation, Princeton, Garrett 24, fol. 68v (c. 800); b) archaic Chartres notation, Athos, Laura B 32, fol. 42v (10th c.); c) developed Coislin notation Paris, fonds Coislin 220, fol. 38r (12th c.); d) Middle Byzantine notation with staff transcription, Grottaferrata, E.γ.II, fol. 36r (AD 1281)).

14. Coislin and Chartres notations

In the 10th century, two main types of Palaeobyzantine melodic notations had been developed, which are now referred to as the Coislin[78] and Chartres notations.[79] A relatively large group of basic signs[80] is common to both types, and a common 'parent notation' must be supposed. This notation, as Strunk observed, was probably closest to the archaic Coislin type, embracing the 'radical' neumes *oxeía, bareía, apóstrophos, petasthḗ*, and *klásma*.[81] The place of origin for this notation is probably to be found in the monastic milieu of Palestine, where the St. Sabbas monastery in the vicinity of Jerusalem held an influential position. The oldest Chartres sources trace their provenance to the province of Constantinople.[82]

One of the most striking differences between these varieties is that the developed Chartres notation uses considerably more 'great'

[75] The earliest known document of this type is probably the lower script of the palimpsest Princeton, Garrett 24, dated around 800, see Raasted 1992[2], Skemer 1996, and a forthcoming study by P. Jeffery. A brief survey of this notational type is found in Raasted 1995.

[76] Raasted 1992[2], 59.

[77] see Raasted 1992[2], 60-2.

[78] The term was coined from the Paris manuscript, fonds Coislin 220 (12th c.), a famous specimen of this type of notation.

[79] Named after a fragmentary manuscript, formerly kept in the Municipal Library of Chartres, but destroyed in allied bombings during World War II. The major part of the same manuscript survives on Mount Athos as Laura Γ 67.

[80] Among these are *oxeía*, *diplḗ*, *petasthḗ*, *kéntēma*, *dýo kentḗmata*, *apóstrophos*, *dýo apóstrophoi*, *bareía*, *píasma*, *klásma*, *thematismós*, *théma haploûn*, *paraklētikḗ*, and *apóderma* (see §§ 26, 33 and 40).

[81] Strunk 1965, 16.

[82] Strunk 1955.

[83] For basic studies on the Palaeobyzantine notations, see Strunk 1965, Floros 1970 and *Palaeobyzantine Notations*.

[84] e.g. the use of the group sign *epégerma* in MS Cyprus, Archbishopric, Mousikos 39 (mid-11th cent.).

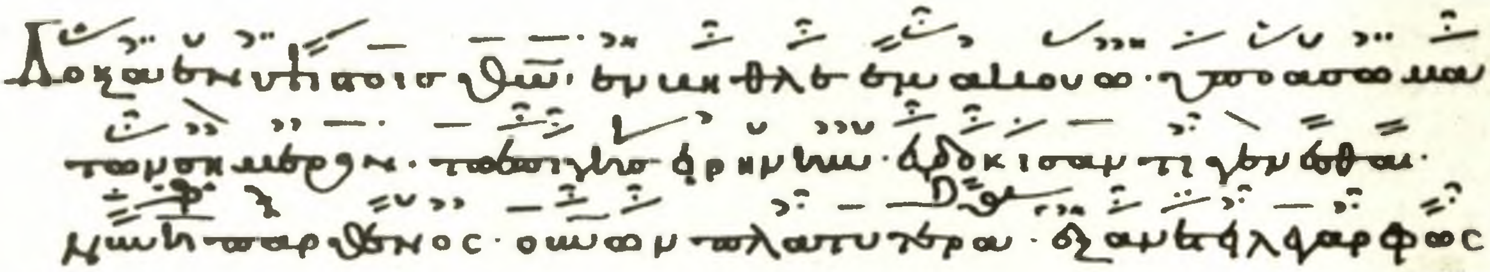
[85] Coislin notation was used right through the fourteenth century in some areas of the Middle East. It was also this notation that accompanied the Palaeoslavic translations of the *Heirmológion* and *Sticherárion,* the notation of which is known under names such as *'Znamennaja'*, *'Krjuki'*, *'Stolp'*, or *'Sematic'* notation. The other branch of Palaeoslavic notations is the so-called 'Kondakarian' variety, which is closer to the Byzantine Chartres notation. For a history of Russian Church Singing, see Gardner 2000.

signs (signifying brief formulaic phrases) than the Coislin notation. In Coislin notation the signs tend to crowd around the group signs, while in the Chartres notation these retain a 'stenographic' or 'symbolic' character, thus having no need for additional melodic signs. Both branches use 'letter neumes', such as *chi* for the *chamelé* (Gk. 'down on earth', 'low'), although the Chartres notation has more of this type. The two notations were almost exclusively used for the genres *sticherá* and *heirmoí*, and the melodies taken down in their archaic stages have many 'blank' syllables, not provided with any musical signs (see Example 10b). Probably these 'blank' syllables were considered 'unimportant' in relation to the melodic progression, while the syllables with notation are the ones with a special stress, a special high position, prolonged notes or syllables furnished with a brief melisma expressed through a group sign.[83]

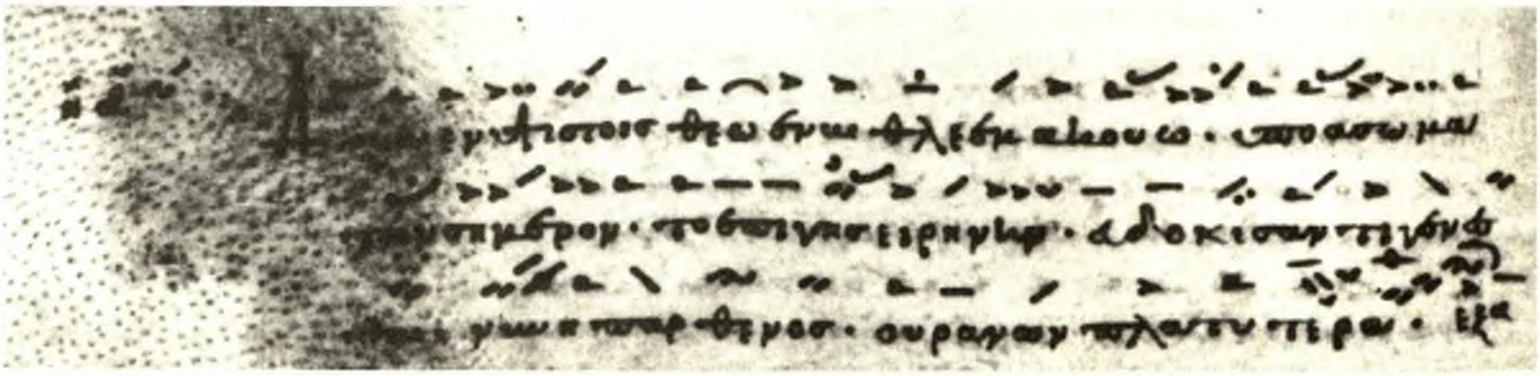
In the later and most developed stages of the Palaeobyzantine neumations, all syllables carry notation, and in other respects too the notation tends towards being more and more explicit – for example by adding signs to indicate 'high' or 'low' positions to melodic elements and to the modal signatures (*echémata*, see §§ 58-60), and beginning to use the *íson* and *olígon* signs for repetition and counting one step upwards respectively (see Example 10c). In few manuscripts, individual systems moving in the direction of a more precise indication of pitch were applied, for example the use of a sign explaining a semitone step[84] or the recurrent use of group signs in specific tonal contexts. But both the Chartres and the Coislin notations remained, in principle, adiastematic. Nonetheless, it is often possible by comparison with the diastematic Middle Byzantine versions to trace the melodic tradition back to the earliest stages of the Palaeobyzantine notations (a procedure which is of equal importance in the study of early Western plainchant).

The Chartres notation was already out of use by the eleventh century, whereas the currency of Coislin notation persisted for a considerable period, even after the invention of the Middle Byzantine notation. This happened especially in the periphery of the Empire and adjacent areas under Byzantine influence.[85]

11a



11b

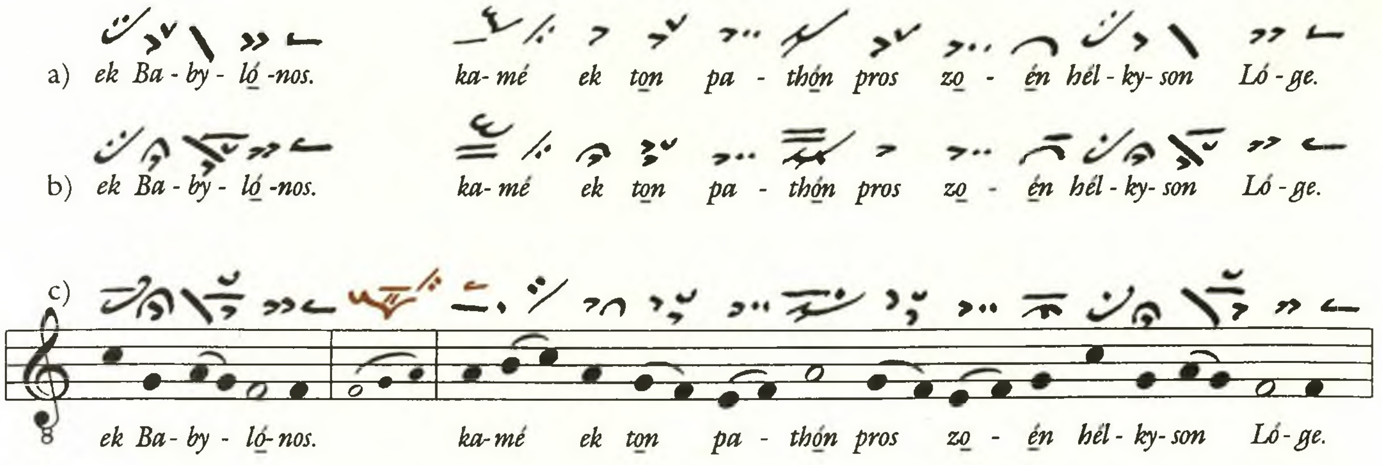


Example 11a-b
(*Sticherón "Dóxa en hypsístois Theó"* (*Gloria in excelsis Deo*) for Christmas, 1st mode; a) Chartres notation, Sinai gr. 1219, fol. 60v, = MMB VII pl. 144; b) Coislin notation, Vienna, Theol. gr. 136, = MMB X, fol. 80v).



Example 12
(*Stichērón "Dóxa en hypsístois Theṓ"* for Christmas, first mode in Middle Byzantine notation, MMB XI, fol. 79r, cf. Exx. 11a-b)

A notational experiment in the direction of the diastematic Middle Byzantine notation is attested already in two manuscripts representing the developed Coislin notation, namely Grottaferrata, E.α.VII (12th cent.) in folios 220v-222v, and in long passages of St Petersburg, Russian National Library gr. 789, which was originally written at the Vatopediou monastery on Mt Athos in 1106. Both of these manuscripts always use the *íson* for pitch repetition, *olígon* for an upwards second, but also two *olígon* signs on top of each other to specify an upwards leap of a third. Although this feature is alien to both the Coislin and the Middle Byzantine notations, it points undoubtedly towards the principle of step counting which eventually became the basic principle of the latter.



Example 13a-c
(Phrases from *sticherón "Ten aichmalosían Sión"*, 3rd mode; a) Ohrid, National Museum 53, p. 592, moderately developed Coislin notation; b) St Petersburg 789, fol. 238r, developed Coislin notation with double *olígon* to indicate upward leaps of a third, c) MMB XI, fol. 280v, Middle Byzantine notation; cf. MMB, Transcripta III, 156)

Middle Byzantine notation
15. 'Middle Byzantine' or 'Round' notation[86] (c. 1150 – c. 1815)

Around the middle of the 12th century,[87] a thorough reform of the Byzantine musical notation took place, by which one could now express the precise number of steps to move upwards and downwards in relation to the preceding note. The dynamic properties of the traditional melodic signs were thus expanded with precise indications of the melodic movement, but they retained the company of the subsidiary signs, which indicate rhythmical properties, grouping and phrasing of the interval signs. The shapes and meanings of the interval signs can be seen in the *Quick Reference Card* and will be treated in greater detail in Chapter V.

The principles of the Round Notation remained in use for around 650 years, until the Reform of the Three Teachers in the first decades of the 19th century. From c. 1300 onwards, there is seen a proliferation of 'subsidiary signs' or 'group signs', often written in red ink (also called 'cheironomic signs', 'great *hypostáseis*', or 'phrasing signs'). This increase was caused partly through a migration of signs from chant books of the melismatic genres (the *Psaltikón* and the *Asmatikón*) into the primarily syllabic ones (*Sticherárion*,[88] *Heirmológion*), and partly through a revival of some group and phrasing signs from the old Chartres notation. In this process it was impossible to 'import' the complex of shape, name, and function from an archaic, adiastematic notation that had been abandoned for two centuries into a contemporary, diastematic one without some alteration. Some of the old signs were modified and associated with new functions or names.[89] According to Byzantine tradition, some of the leading figures behind these reforms were Ioannes Koukouzeles (*fl.* c. 1300) and his supposed predecessor Ioannes Glykys.[90] It is this stage of the Middle Byzantine notation which we find represented in the so-called *Papadikai*, treatises consisting of various short didactic texts and lists of signs, which served as primers of Byzantine chant from the beginning of the fourteenth century onwards.[91]

[86] The term 'Middle Byzantine' notation was coined by Wellesz 1916, 104. The short name 'Round notation' (*die Runde Notation*) is due to Riemann 1909. It refers to the rounded *íson*, a sign which may have an angular shape in some Coislin notation manucripts, but it is an unhappy choice of terminology as the angular shape is also seen in early manuscripts of the 'Round' notation, e.g. Athos, Iberon 470 (MMB II). See also Appendix, Plate 1.
[87] The early period of the Middle Byzantine notation is characterised by the occasional retention of Coislin habits, as seen in manuscripts such as Sinai gr. 1218 (from AD 1177), Patmos 221 (from the period 1168-79), Vat. Barb. 483 (last quarter of 12th cent.), and Athos, Iberon 470 (= MMB II), which Høeg dated around the middle of the 12th century. See also van Biezen 1968, 48, Floros 1970, 1, 326-8, and Papathanasiou 1997, 54. Another early Middle Byzantine manuscript is Grottaferrata E.α.IX from 1180. See also Appendix, Plates 1-4.
[88] For example, the neumatic line of the traditional *Sticherárion* is abundantly accompanied by the signs *parakálesma, homalón, antikénoma, sýnagma, lýgisma, ouránisma, thematismós éxo* and *éso* etc. in *Sticherária* from the 15th cent. onwards. See Kujumdzieva 1990 and below Example 14c.
[89] As examples of such reinterpretations the following signs can be mentioned: *énarxis, parakletiké* (see Troelsgård 1995), *staurós* as a rhythmical sign, *ouránisma,* and *lýgisma.*
[90] Two similar didactic songs, both beginning *"Íson, olígon"*, are ascribed to these. Embedded in a context of small exercises and transitions through the eight modes, the songs both demonstrate single-interval neumes and quote characteristic formulas from the various genres, pedagogically texted to the medieval names of the actual signs and formulas represented (see Alexandru 1996 and Troelsgård 1997). The beginning of Koukouzeles' *"Íson, olígon"* is depicted in App., Plate 18.
[91] see above, note 14.

From a notational point of view, the Postbyzantine centuries continued the Middle Byzantine notation of the fourteenth and fifteenth centuries. The most significant group of chant books from this period are the so-called *Akolouthíai* manuscripts.[92] These books contain a few examples of simple psalmody, a greater quantity of so-called 'kalophonic' pieces, and re-workings of pieces from the earlier *Psaltikón* and *Asmatikón* styles.[93] The style of these cathedral chant books were more melismatic than the 'classical' monastic *Sticherárion* and *Heirmológion*, and they therefore used many subsidiary ('red', 'group', or 'phrasing') signs right from the earliest preserved specimens (12th-13th centuries). For these reasons, it does not seem feasible to speak of distinct 'Koukouzelean',[94] 'Late Byzantine',[95] or 'Exegetical'[96] notations, as the apparent difference between the earlier and later Middle Byzantine sources lies in changes of style and repertory rather than in the basic principles of the notation.



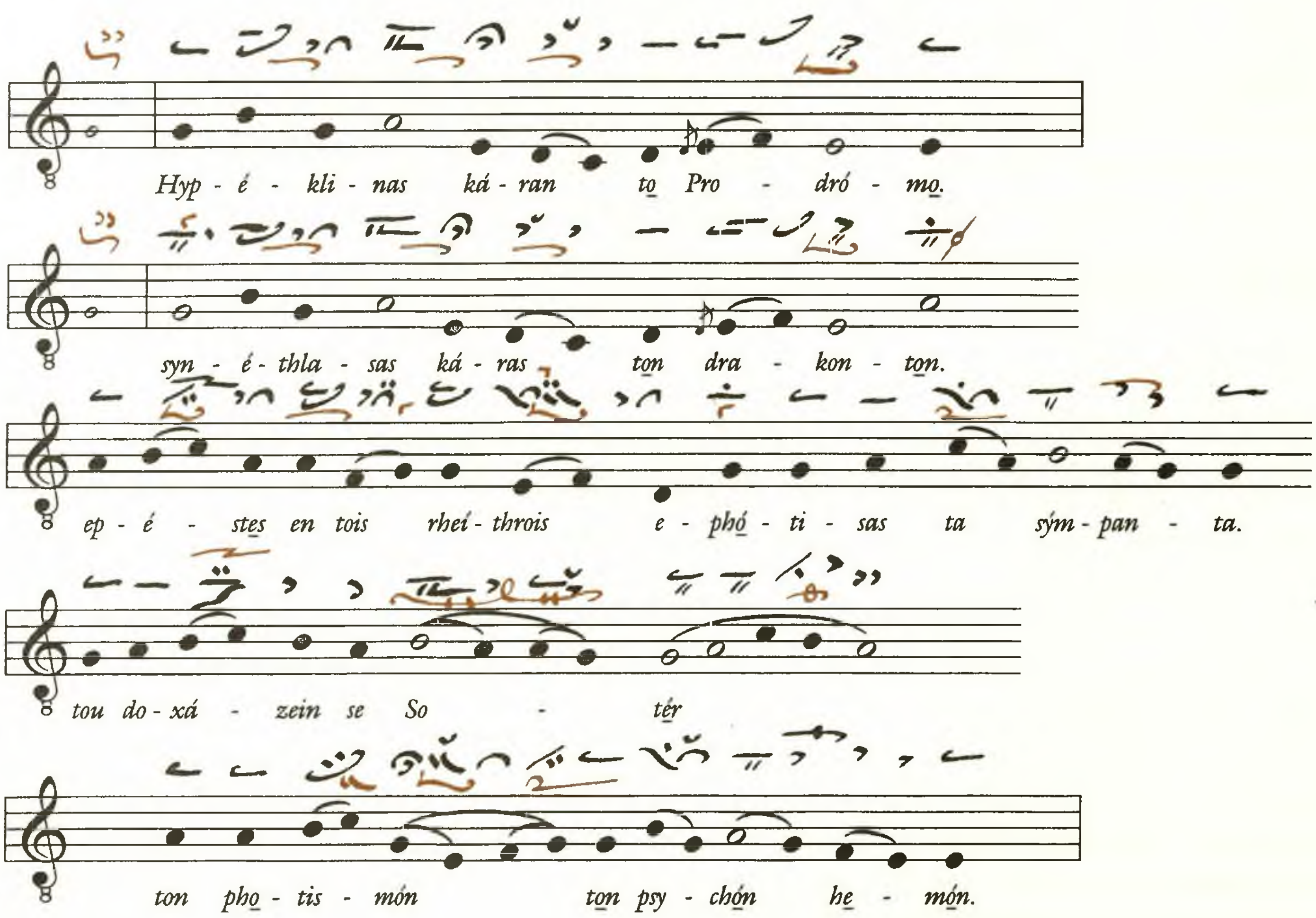
Example 14a

Example 14a-c
(Versions of the *sticherón "Hypéklinas káran"*, 2nd mode. The example shows an increasing quantity of 'great' signs; a) Sinai gr. 1218 fol. 87v (AD 1177); b) MMB XI fol. 97v (AD 1342); c) Athos, Docheiaríou 351 fol. 159r (AD 1667))

[92] Also called *Anthologíai* or *Papadikaí*.
[93] These chant styles are presented briefly in Chapter VII, §§ 77-79.
[94] Thibaut 1907, Gastoué 1907, and Tardo 1938.
[95] Fleischer 1904 and others.
[96] Stathis 1979¹, 45-59.



Example 14b



Example 14c

Apart from kalophonic settings of older syllabic melodies, we observe from the seventeenth century onwards and culminating in the eighteenth century gradually-evolving practices of reworking and ornamenting in certain genres, to the effect that elaborated interpretations, '*exegéseis*',[97] and artistic versions (*kallopismoí*, 'beautifications') and 'short versions'[98] were notated, attesting to the dynamics of lengthening-shortening procedures in both composition and performance. The *exégesis* practice and the rhythmic treatment of the 'old' Byzantine melodies from the seventeenth, eighteenth, and nineteenth centuries resemble the dichotomy of 'basic melody' and ornamented performance as seen in the Ottoman art music of the same period.[99] Moreover, the ornamentation and prolongation practices in seventeenth- and eighteenth-century Ottoman vocal music[100] display similarities with manners of embellishment in the Byzantine kalophonic compositions (see § 79). On the other hand, comparison of Byzantine chant manuscripts from the period of Ottoman rule with those of the medieval period shows that the melodic line in some syllabic/neumatic genres remained relatively unchanged. Yet other genres seem to have dried up already in the middle ages, as it happened to parts of the melismatic *Psaltikón* and *Asmatikón* repertories, or they were subjected to a continuous process of recomposition.[101]

The "New Method"

16. The 'New Method' or 'Chrysanthine Notation' (1814 onwards)

From around the middle of the second decade of the nineteenth century, a new method of notation was being systematically taught from the Patriarchal School in Constantinople. This notation was developed on the basis of the latest stage of the Middle Byzantine notation, and still remains in use today in many churches adhering to the Byzantine rite.[102] The central characters behind this reform were Chrysanthos of Madyta (Greek Orthodox bishop of Dyrrhachion (Durrës), d. 1843), Chourmouzios Chartophylax (d. 1840), and Gregorios Protopsaltes (d. 1822), collectively called the 'Three Teachers'.[103] The 'New Method' was described by Chrysanthos in treatises of 1821 and 1832, but already in 1820 the first whole chant collection was printed in Bucharest, typeset in the New Method notation.[104] The main innovations introduced by Chrysanthos and his colleagues concerned:

a) exact description of scales and interval sizes: the application of a system dividing the scales into three *genera*, diatonic, chromatic and enharmonic;[105] the introduction of solmization syllables (*pa, bou, ga, di, ke, zo, ne*);[106] and the supposition of a basic 'octave identity' (*heptaphonía*) instead of the earlier concepts of fourth and fifth identities;

b) exact information on the rhythmical organisation of the melodies and the duration of each interval sign, including pauses; and

c) a radical reduction and modification of subsidiary and interval signs.

[97] On the concept '*exégesis*', see a.o. Psachos 1917, di Salvo 1957, Stathis 1978 and 1987, Husmann 1980, Karas 1982, Arvanitis 1997, Schartau/Troelsgård 1997[1], and Tončeva 1997. See also below § 21.

[98] Stathis 1980.

[99] This applies to the rhythmic expansion of the basic time values, Wright 1992, 267-8, and the conjunct melodic texture, Oransay 1966, 21-54.

[100] Wright 1996, especially 462-7.

[101] cf. Makris 1997. Appendix, Plates 20 and 21 show examples from Chrysaphes the Younger's *Sticherárion* (17th cent.) and from the *Heirmológion* according to Balasios (17th cent.).

[102] Giannelos 1996 provides a recent introduction to the New Method.

[103] see Morgan 1971.

[104] A 'translation' of Petros Peloponnesios' (c. 1780) 'Short ('*Sýntomon*') Doxastarion' into the 'New Method' notation, Bucharest 1820.

[105] These terms were inspired from Ancient Greek music theory and had not been applied in ecclesiastical Byzantine musical theory before Chrysanthos of Madyta.

[106] The solmisation syllables *pa, bou, ga, di,* etc. refer to the Greek alphabet α, β, γ, δ, etc.



Example 15
(*Heirmós* "*Soú he̲ tropaioúchos dexiá*", first ode from first *Kanó̲n* in 1st mode, reproduced from the printed edition of Petros Byzantios' *Heirmológion Sýntomon* in Chourmouzios Chartophylax's 'New Method' translation (Constantinople 1825, p. 3), here furnished with rhythmical staff transcription. Compare with Appendix, Plate 21, which shows a related version in Middle Byzantine notation from the second half of the 17th c. For medieval versions of this *heirmós*, see MMB Transcripta VI, 3-6)

Transcription of the Middle Byzantine notation

IV

17. The MMB transcription system

The system used in the MMB *Transcripta* series has proved to be increasingly unsatisfactory, and the series has therefore rested since 1958. In particular, the rhythmical interpretation has been questioned,[107] but also the dynamic marks used to represent features of the original neume text have led to some confusion. However, the *Transcripta* volumes are still useful for analytical purposes, especially if one applies the code for 'recreating' in the mind a picture of the original notation behind these transcriptions[108] and does not pay too much attention to the conventional meanings in modern notation of the dynamic marks or the rhythm. Therefore, a reference to the old MMB code for each Byzantine sign is included in the tables below (§§ 26, 35, and 40).

[107] v. Biezen 1968, Schlötterer 1971, Raasted 1987, and C. Hannick *'Probleme der Rhytmik des Byzantinischen Kirchengesangs, ein Rückblick auf die Forschungsgeschichte'*, in Hannick 1991, 1-19. See also § 35-39.
[108] cf. Strunk 1970, 52.



Example 16

Example 16 (p. 35)
(MMB style transcription of *heirmós "Tēn Siṓn ep' óros"*, 4th mode. The neumes are from the *Heirmológion* Athos, *Ibḗron* 470 = MMB II, fol. 66v. The brackets in third system indicate that the *sýnagma* formula is not spelled out diastematically in the original notation (see above note 87). Compare with Example 17.

18. Other transcription systems

Other transcription systems have been developed for different purposes, some intended for musicological analysis on various levels, others for performance. In the latter case, it is of course necessary to make a long series of decisions on the scale to be used, the dynamic character, the tempo, the vocal technique, performance with or without a vocal drone[109] etc., but it will differ from case to case how many of these features are actually explicitly written down in the score, and how much is left to oral instruction in order to arrive at the intended 'reconstruction' of a medieval Byzantine chant.[110] In chant analysis, on the other hand, it is possible to use a transcription system that consciously dispenses with some of the parameters that are uncertain, as long as the transcription does not pretend to represent a ready-to-serve 'reconstruction'.

Apart from the Monumenta Musicae Byzantinae, extensive transcriptions have been published by Petrescu 1967 and 1984. His system has been followed by a number of Roumanian scholars and performers[111] and is characterised by the interpretation of *elaphrón* and *antikénōma* as downwards *glissandi* and a rhythmic profile according to which the *diplḗ* triples the duration of the basic time value.

In the following, a few examples will be given to illustrate various other approaches to the transcription of the Middle Byzantine notation into staff notation.

19. van Biezen

In 1968 J. v. Biezen published a detalied study of the *Heirmológion* MMB II. Based on a calculation of the frequency of accented syllables in combination with accent neumes like *oxeía* and *petasthḗ* and prolonged notes, he arrived at the conclusion that the classical Byzantine *Heirmológion* was generally conceived in a binary rhythm. Small strokes below the staff indicate this division into 'measures'. Further he adds a few signs from the original notation of the amnuscript above the staff to indicate the various dynamic values.

[109] Drone practice (*íson* or *isokrátēma*) is typical of post-medieval and Neo-Byzantine chant, but is with certainty only attested from the 16th cent. (Crusius 1584, 197). However, the possibility of adding a drone is probably older (Schlötterer 1982). Some late medieval manuscripts mention a group of singers termed '*bastaktai*' that might be set in connection with *íson*-singing, or at least singing in parallel octaves, called *diplasmós* or *heptaphōnía* (cf. Stathis 1979, 31).

[110] For a short history of editorial principles applied on Byzantine chant and various manners of transcription, see Schlötterer 1971.

[111] e.g. Pantiru 1971.



Example 17
(The same *heirmós* as rendered in Example 16, transcribed by van Biezen 1968, 101. The *sýnagma* in measure 27 is supplied from Grottaferrata, E.γ.II = MMB III, fol. 125r)

20. Raasted

In 1979 Jørgen Raasted made the following transcription for a concert performance of Byzantine chant,[112] assuming that the second plagal mode in the thirteenth to fourteenth centuries was sung chromatically throughout (cf. § 72). The basic rhythm alternates between units of two (or four) and three quavers, a feature inspired by the rhythmic theory of the New Method, and further Raasted suggested that the piece should be performed with a 'double drone' (*íson*) on E and A,[113] as indicated by letters at the beginning of the piece. The special dynamic values of *oxeía* and *petasthḗ* are rendered with signs for stress and a little ornament respectively.

[112] For a concert on 10 Oct. 1979 in Trinitatis Kirke, Copenhagen, on occasion of the 500 years' jubilee of the University of Copenhagen.
[113] see above, note 109.



Example 18
(The *stichęrón "Ouránie Basileú"* (first section), transcribed by Raasted from Athens, National Library 884 (AD 1341), fol. 221r)

21. Stathis

Also in the 1970s, G. Stathis published the following example with a primary 'transcription' of the original notation (MS Sinai gr. 1580, *c.* 1720, fol. 213v) into the New Method by one of the Three Teachers, Gregorios Protopsaltes (d. 1821), and a secondary transcription of this version onto a staff. The primary transcription is done according to an *exégęsis* practice, with the supposition that especially the subsidiary signs of the Middle Byzantine notation were 'stenographic' shortenings of longer melodic formulae, which were orally transmitted until the period immediately before the reform of the Three Teachers.[114] As a consequence, the letter transcription of the original notation (left hand column) is understood only as a melodic skeleton which has to be expanded in actual performance (*mélos*). While this ornamental practice certainly applies in some genres from the middle of the 17th century onwards,[115] it appears anachronistic to claim that it was valid for the entire earlier medieval tradition, as has been claimed by some scholars.[116]

The melody is arranged by Stathis with a moving *íson* and a rhythmic division into units (*pódes*, 'feet') of eight, six, five, and four crotchets respectively, and it is explicitly indicated that the scale of the New Method treatises should be followed.[117]

[114] Stathis 1978. Stathis has later modified his understanding of the *exégęsis* concept as relating to "all constituent elements of the notation", and not only the 'great signs', Stathis 1987, 358.
[115] Arvanitis 1997, Schartau/Troelsgård 1997[1].
[116] See for example Psachos 1917, 24-33.
[117] See above §§ 11 and 16. Stathis 1979[2] refers to a later modification of Chrysanthos' 1821 scale which converges towards the equal temperament, based on the outcome of the 1881 revisions of the New Method, *Teachings of the 1881 Patriarchal Committee*, 23.



Example 19
(The *stichērón "Tón hḗlion krýpsanta"* (first phrase) by Germanos of New Patras, second half of the 17th c., after Stathis 1979b, 208-9. The original letter directions for the moving *íson* have been transformed into a separate set of staves (*isokrátēma*))

22. The transcription system used in this book

As in any reconstruction of medieval plainchant, the dynamic properties of the neumes, the rhythm and the actual structure of the scales of the Middle Byzantine notation can only be reached approximately. Therefore, it is advisable always to study the medieval Byzantine melodies on the basis of the original neume text, and not only through a

transcription, in order to furnish the reader with a tool to evaluate a given interpretation.

The 'relative' or 'digital' character of the Middle Byzantine notation made it first of all well suited for training and performance, indicating to the reader/singer both the upwards and downwards movements of the melody and special dynamic and rhythmic qualities. Seen from this point of view, the Byzantine notation invites a primarily linear or 'dynamic' perception of the melody, whereas the Western staff notation, with its 'analogue' or 'two-dimensional' character, is perhaps more apt for a visual comprehension of the melodic line.

For analytical purposes, it is very useful to work with the original notation together with a transcription that indicates the pitch and the flow of the melody in an 'analogue' or 'graphic' mode. In this book, therefore, a dynamically and rhythmically neutral staff notation – similar to the system almost universally used in modern studies of Western plainchant – is used together with the original neumatic notation.[118] Noteheads are set without stems, and only the notes that with some security can be determined as considerably prolonged in the medieval period, namely *diplé̱*, *dyo̱ apóstrophoi*, and *kráte̱ma*, are rendered as long ('void') notes.[119] Neumes belonging to conventional groups are slurred together.

In some cases also a neutral letter transcription covering the pitches **ABCDEFG-abcdefga'** is used instead of staves. Also the letter transcription should be used together with the original neume text, and it has, apart from the fact that it takes up less space, an advantage of being easily processed and analysed in any text editing programme.

[118] This is similar to the system applied by Haas 1973.

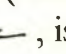
[119] For the interpretation of the signs *klásma* (*tzákisma*) and *apóderma*, see below § 37 and § 41 respectively.

The signs of the Middle Byzantine notation

V

The Interval signs

23. The *íson* ('same', 'equal')

The *íson* sign, , is used for repetition of the preceding pitch.

24. Bodies and spirits

The rest of the interval signs are called *se̱mádia pho̱ne̱tiká* ('signs having *pho̱né̱*', i.e. interval value). According to medieval Byzantine musical manuals, the interval signs divide into two groups: single steps are called *só̱mata* ('bodies') and leaps belong to the *pneúmata* ('spirits').[120]

25. Dynamic quality and phrasing

Six different *só̱mata* indicate one ascending second, each with a specific way of performance, referred to in the following as 'dynamic quality'. In the earliest preserved medieval Byzantine treatise, the *Hagiopolíte̱s*, the phenomenon of the same intervals having different dynamic qualities is explained as follows:

> *The oligon 'has one sound' (i.e. denotes the interval of one step), and so has the Petasthe and the Oxeia. Some people wonder why three signs have been made to denote one sound – and not only one – though one sign would have sufficed everywhere. Our answer to these people is that the sound is realised in different ways – the step being a sharp one, a smooth one, or in between. The different signs were made because of this difference of sounds – and also because of the change of cheironomy.*[121]

The dynamic qualities of the medieval Byzantine neumes can only be determined approximately. Taking a basic knowledge of chant practice for granted, the medieval Byzantine treatises only seldom elaborate on the actual performance of the various signs. They focus rather – for mnemonic purposes – on the etymology of the neume names or the cheironomy of the signs. The interpretation of the actual dynamic quality or phrasing of a musical sign can therefore not be deduced from the treatises alone.

The Middle Byzantine notation was used for more than 600 years over the vast area influenced by Byzantine culture, including central and Eastern Europe, the Balkans, the Mediterranean and the Near East. Consequently, we must suppose that there were both local variation in the interpretation of the signs and general developments in the notation over time.

Some help in determining the dynamic qualities of the signs

[120] Various versions of the *Papadikai*, other neume lists and theoretical treatises display a number of differences in this classification system. In addition to 'spirits' (Greek 'breathing marks'), other distinctions inspired from ancient grammar such as *pho̱né̱enta* ('vowels'), *tónoi* ('accents'), and *méle̱* ('prosody') are found, see Hannick 1977 and Alexandru 1999.

[121] *Hagiopolites*, 25. Even if the Greek text is partly corrupt, the idea of a distinct dynamic quality of signs with the same intervallic value is clear. A progression of 'sharpness' in the triad *olígon*, *oxeía* and *petasthé̱* is also documented in *Akríbeia*, lines 213-224. The close relationship between the dynamic quality of a sign and its 'cheironomy', its 'gesture', is evident, see 'Introduction' above .

can be found in the musical manuscripts themselves. Specific positions in relation to the textual structure might signal specific performance practices. In addition, adjacent or equivalent dynamic and rhythmic qualities can be studied through variant readings. This is possible when different manuscripts display variant neumations in otherwise identical contexts. In such cases we must suppose that the melodic reality they were meant to represent was identical or quasi-identical.[122]

Finally, both the theoretical texts of the 'New Method' from the first half of the 19th century, and also modern Greek performance practice can be used as inspiration in attempts at reconstructing the 'dynamics' of the various signs in medieval Byzantine chants.[123] The hypothesis that the *petasthḗ* and the *krátēma* also in the middle ages involved a kind of ornamentation or frequency modulation is convincing, but a precise description of the phenomenon is first seen in texts referring to the nineteenth-century tradition.[124]

In practice, not all interval signs are universally applied, and the composers and scribes of Byzantine musical manuscripts had to observe some specific rules for their application. There was not a free choice between the six different signs for an ascending second. Most signs are restricted to certain combinations or positions in relation to the melodic progression, and a few are limited to specific genres. As a consequence of the use of 'pitch accent', a single *oxeía* or *petasthḗ* is normally followed by a descending interval in the sticheraric and heirmologic genres.[125] The *koúphisma* is also regularly used under very specific conditions in these genres: in a 'paroxytone' accentuation pattern (with accent on the penultimate syllable) at the ending of the penultimate phrase in a syntactic period, which ends with the main cadence of the mode. In addition, the syllable following the *koúphisma* must be on the same or on a lower pitch.[126] As an example of a neume linked to a specific genre, it is evident that the *pelastón* is frequently used in the *Psaltikón* and *Asmatikón* genres, as the topmost note in an arch movement on one syllable, while it occurs only very rarely in the *Stichērárion* and the *Heirmológion* – probably only due to stylistic influences from the melismatic genres.

[122] Typical instances are *koúphisma* (see Quick Reference Card or § 26) in the position where another manuscript uses a *petasthḗ*, *oxeía* instead of *petasthḗ*, two *olígon* signs on top of each other instead of one with *dýo kentḗmata*, or two descending seconds (two *apóstrophos* signs) written with and without *klásma*.

[123] There is no doubt that Neo-byzantine chant has preserved some characteristics of the earlier tradition, even back to medieval times, and therefore an ethnomusicological approach seems very appropriate (cf. Jeffery 1992). The heterogeneity of the contemporary tradition where various 'schools' compete with each other is, however, a major problem when the discussion comes to 'authentic' performances. Dating back modern performance practices should, when possible at all, be confirmed by contemporary evidence (see Widdess 1992, 224).

[124] cf. Panagiotopoulos 1947, 82-3. In the living tradition, one regularly hears also an '*apoggiatura*' performance of the *oxeía*.

[125] By analogy with this phenomenon, the descending *bareía* group often prepares an accented syllable.

[126] cf. Raasted 1986, 16-17. The use of *koúphisma* might also have rhythmic implications, cf. v. Biezen 1968, 53. The graphic form of the *koúphisma* is regulary extended to cover two syllables.

26. Conspectus of the interval signs

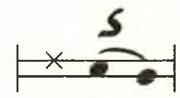
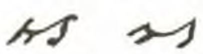
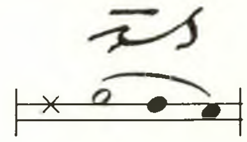
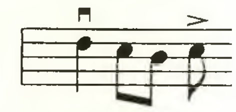
	Shape and name *(earliest forms first)*	Interval value	Dynamic quality	MMB-Transcripta
SOMATA	*ison* ἶσον	pitch repetition	neutral	
	oligon ὀλίγον	ascending 2nd	neutral	
	oxeia ὀξεῖα	ascending 2nd	moderate accentuation	
	petasthé πεταοθή	ascending 2nd	sharp and/or modulated accentuation	
	koúphisma κούφισμα	ascending 2nd	light and/or modulated accentuation	(see above § 25)
	pelastón πελαστόν	ascending 2nd	almost as *petasthé*	
	dýo kentémata δύο κεντήματα	ascending 2nd	neutral, adds an ascending second to any other interval sign	
	apóstrophos ἀπόστροφος	descending 2nd		
	dýo apóstrophoi δύο ἀπόστροφοι	descending 2nd, prolonged	neutral	

	Shape and name	Interval value
PNEÚMATA	*kéntema* κέντημα	ascending 3rd
	hypselé ὑψηλή	ascending 5th
	elaphrón ἐλαφρόν	ascending 3rd
	chamelé χαμηλή	ascending 5th

27. Additional interval signs

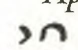
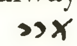
In addition to the *íson* (§ 23), an extra descending interval sign, the *hyporrhoé*, and a couple of ligatures with it blur the distinction between

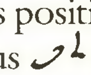
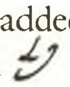
sómata and *pneúmata*. The *hyporrhoḗ* does not need the support of other signs.

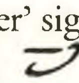
Shape and name	Interval value		MMB Transcripta
 *hyporrhoḗ* ὑπορροή	two consecutive descending seconds		
 *kratēmohypórrhoon* κρατημοϋπόρροον	*hyporrhoḗ* preceded by a *kratḗma* (see § 36)		
 *kratēmohypórrhoon* with *olígon* or *oxeía* κρατημοϋπορροο-ανάσταμα	*kratēmohypórrhoon* followed by an ascending *olígon* or *oxeía*.		

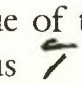
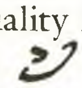
28. Rules for the combination of signs

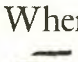
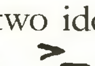
a) A *pneúma*, i.e. a leap sign, cannot stand alone but must always be supported by either a *sṓma*, i.e. a step sign, or a subsidiary sign (rhythmic or phrasing sign, see below §§ 35 and 40). In combinations the dynamic quality is governed by the supporting sign.

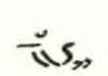
Apóstrophos or *dýo apóstrophoi* always support descending leaps, thus  is a descending third and  is a descending fifth, prolonged.

b) When a *sṓma* combines with a *pnéuma*, their relative position determines the resulting interval. If the *sṓma* stands to the left, it loses the interval value, but if it is positioned under the *pneuma*, the two intervals are added together. Thus  is an ascending fifth with *petasthḗ* quality, and  is an ascending sixth with *petasthḗ* quality.

c) When different *sómata* are put on top of each other, their interval values are added together, and the 'stronger' sign governs the dynamic quality of the resulting note. For example  is an ascending third with *petasthḗ* quality.

d) In all combinations of *íson* (or, rarely, a descending sign) and an ascending sign, the interval value of the latter is annulled, while its dynamic quality is retained. Thus  is a pitch repetition with *oxeía* quality, and  is a descending second with *petasthḗ* quality. In combinations of *íson* or *apóstrophos* with *dýo kentḗmata*, an ascending step is added as usual.

e) When two identical *sómata* are written on top of each other, such as  or , the signs are not added together, but performed as two consecutive steps.

f) In the group called *seísma*, , the last interval sign is counted directly from the first one, skipping the *hyporroḗ* (see § 50).

29. Combination tables

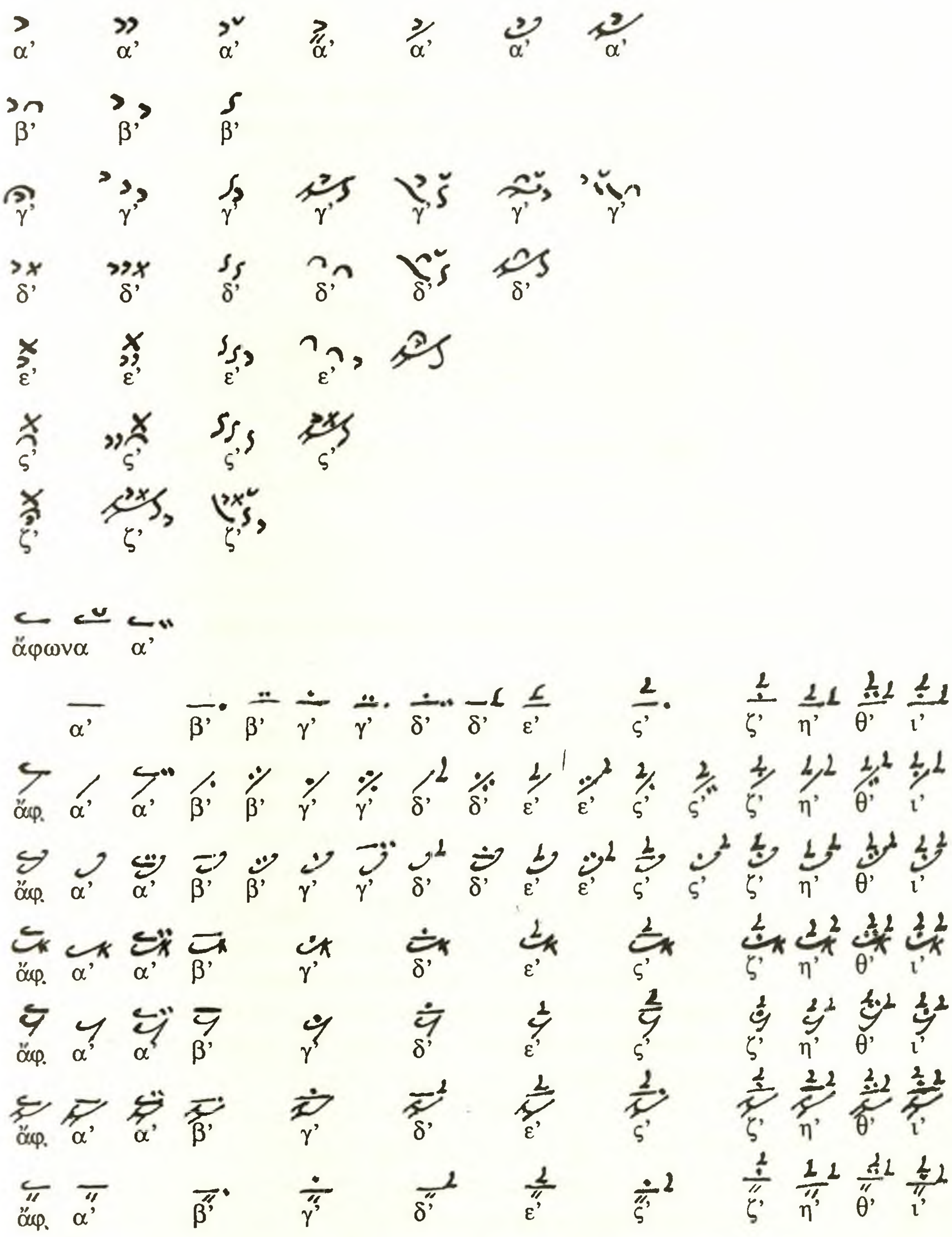
In medieval times, these rules were exemplified through a table of

combinations that was included in almost every *Papadike̱*. Example 20 renders a specimen from Barb. gr. 300 (15th c.).

Explanations to the table: The Greek word ἄφωνον (*áphonon*, i.e. 'without interval value') is written under combinations with *íson*, i.e. indicating repetition of the preceding pitch. Further, Greek numerals tell how many steps (*phonaí*) each combination means. α' shows one step (= a second); β' signifies two steps (= a third); γ' indicates three steps (= a fourth); δ' four steps (= a fifth); ε' five steps (= a sixth); ς' six steps (= a seventh); ζ' seven steps (= an octave) etc.

In the 'classical' repertories of the *Sticherárion*, *Heirmológion*, *Asmatikón*, and *Psaltikón* leaps greater than a fifth are rare, and leaps greater than a seventh are extremely rare. Some passages in the kalophonic style have a greater proportion of large leaps, but generally leaps greater than the octave were of purely theoretical interest.[127]

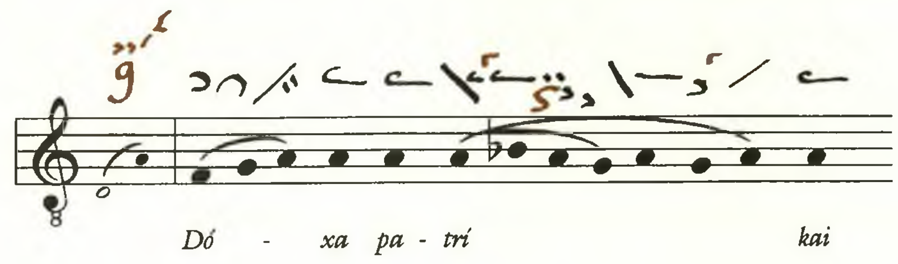
[127] A rare example is the leaps of a thirteenth observed by Stathis 1993, 780 in MS Athos, Iberon 976 (16th cent.), fols 382v-3r.



Example 20a-b
(Interval signs: combination tables according to Barb. gr. 300, fol. 4v-5r)

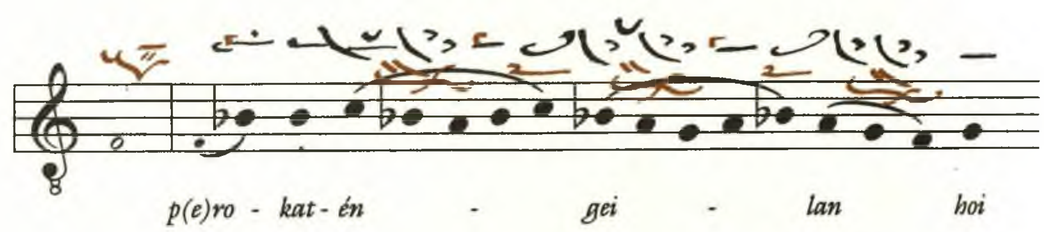
30. 'Small' interval signs (the 'little íson')

From the 14th century onwards, the pronunciation of double consonants was often reflected in the notation by the insertion of a 'little' interval sign, most frequently the *íson*,[128] to support the first of the two consonants, as in the word *'Patri'* being pronounced with a supporting syllable as *'Pa-[te-]ri'*. A *gorgón* (§ 38) is regularly placed between the 'little *íson*' to signal a quick performance. The 'little' or 'liquesquent' interval neume can either be eliminated in transcription:



Example 21
(Beginning of the Doxology in 1st mode by Ioannes Koukouzeles, Athens, National Library 2458 (AD 1336), fol. 8r)

or represented by a grace-note:



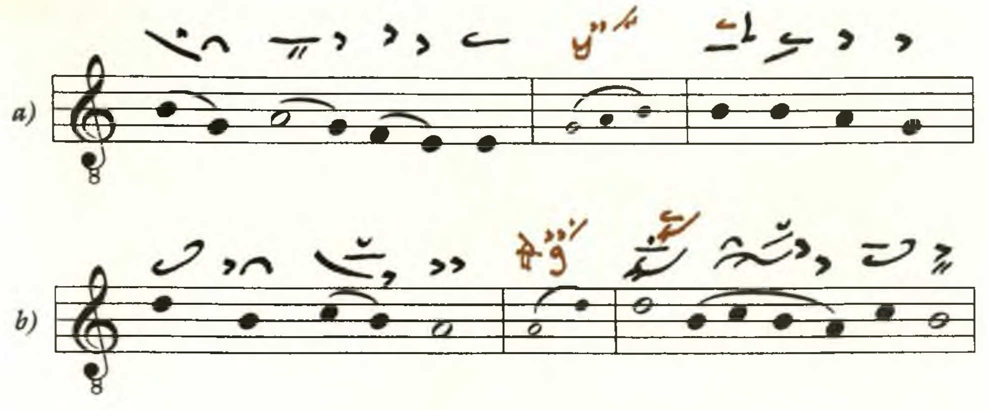
Example 22
(*Theotokíon* (mode *barýs* = 3rd pl.) *"Ánothen hoi prophétai"* in kalophonic style by Ioannes Koukouzeles, Athens, National Library 2406, fol. 442, see Appendix, no. 19, passage from bottom line)

31. Confirmatory signs

After a medial modal signature (see § 64) an extra interval sign (or a group of signs) is often written in red ink on the first syllable, to measure the interval distance from the last note of the medial signature, if this happens to be different from the pitch of the last note of the preceding melodic phrase. These 'confirmatory signs' were probably considered part of the medial signature, and therefore sung by the choirmaster or a soloist responsible for these, to the extent that medial signatures were included in the performance.[129] It is not necessary to include the confirmatory signs in an analytical transcription, though one might want to include them in a transcription intended as a detailed reconstruction of the medieval performance practice.

[128] The phenomenon is called *isáki* ('little íson') in Modern Greek (cf. Karas 1982, I, 181).

[129] A few 'long' medial intonations are found written out in the manuscripts and must therefore have been intended for singing. Raasted 1966, 77-84 and 163 suggested that there existed an option of actually singing the 'short' intonations corresponding to the ordinary medial signatures, where the performance changed between the two half-choirs or soloist/choir.



Example 23a-b
a (*íson* alone as confirmatory sign)
b (other signs, including a group sign)

The subsidiary signs
32. The functions of the subsidiary signs

The subsidiary signs of the Middle Byzantine notation are called *megála semádia* ('great signs'), *megálai hypostáseis* ('great entities' or 'substances'), and *cheironomíai* ('*cheironomic signs*'). Each sign has one, though often more, of the following functions:[130]

a) They accompany specific conventional groups of interval signs and apply to between two and nine or ten notes. In this function, the subsidiary signs appear to a certain degree redundant, as they recur with identical or similar melodic motives or formulas.[131] The 'group signs' are often written in red ink[132] and their primary function was probably to convey a quick visual analysis of the melody and its formulas, *théseis,* to the reader, hence the redundance of information.

b) They confer specific rhythmic qualities upon the interval signs.

c) They convey a particular dynamic expression upon some of the interval signs.

d) They seem to have had a close connection with 'cheironomy', i.e. traditional hand-signs performed simultaneously with the singing. As mentioned, the medieval treatises use the designations 'cheironomic signs' and 'great signs' almost as synonyms.[133]

33. Stock and frequency of subsidiary signs

Originally, the stock of great signs used in the Middle Byzantine notation was relatively limited, comprising around twenty different signs. The longer strokes of the subsidiary signs (and the *koúphisma*) may appear with or without small crosses (cf. § 40). This graphic device was probably meant to dinstinguish them from the interval signs, or it was purely ornamental in character. In the earlier period, some of the subsidiary signs were confined to specific genres such as the *Sticherárion-Heirmológion* (e.g. *thematismós* and *théma haploún*) or the *Psaltikón/Asmatikón* (e.g. *parakálesma* and *antikenokýlisma*), while others were universally applied. In the Late- and Postbyzantine periods, the number of great signs was gradually extended by combinations of already existing signs: an extreme case is the composite neume *kratemo-kataba-tromiko-hypórrhoon*.[134]

[130] see Conomos 1974, 325-67, Kujumdzieva 1990, and Alexandru 1998 for introductions to the subsidiary signs and the problems connected with them.
[131] The melodic motive combines with a number of different group signs: *xerón klásma*, *tromikón* in all its three variants, and with *homalón*, and thus these great signs seem often mutually exchangable. Also the *lýgisma* and *antikenokýlisma* may accompany identical melodic motives.
[132] In connection with late ornamentation practices (*exégesis*), Greek theoretical treatises of the early 19th century distinguish between the 'energy' of black and red subsidiary signs, the latter of which are said to have half the 'energy' of the former, a phenomenon of importance for the actual interpretation (*exégesis*) of the notation in the latest period of the Middle Byzantine notation (see Stathis 1978, 61). For the earlier period, the great variation in the use of black and red ink both within one manuscript and between contemporary manuscripts suggests that the colour had no semantic significance.
[133] See 'Introduction' above.

Furthermore, there was a tendency to add subsidiary signs in red ink to the neume text of older manuscripts, and therefore it remains very problematic to date musical manuscripts only on the basis of the quantity and shape of the subsidiary signs. The general tendency towards an increasing use of subsidiary signs from the 14th century onwards is described above (see § 15 and Example 14).

34. Rhythm and rhythmic signs

As has been mentioned, an exact knowledge of the rhythmic properties of the medieval and early postmedieval Byzantine chant has not yet been established.[135] Consequently, the following comments on signs that regulate the duration of the interval signs are not to be understood as authoritative, but as plausible interpretations of the few hints given in Byzantine and Postbyzantine theoretical texts and in the musical manuscripts themselves.

One of the basic problems is the general rhythmic organisation of the chants, which may well have varied according to genre, place, and period. Some scholars have independently of each other arrived at the conclusion that the *Heirmológion* was predominantly concieved in a kind of 'binary' rhythm.[136] The founders of the MONUMENTA MUSICAE BYZANTINAE advocated a basically 'free rhythm',[137] opposed to the rather rigorously measured rhythm implied in the ninteteenth-century theory of the 'New Method'.[138] As suggested above, I think that the accentuation patterns played a role not only for the melodic line, but also for the rhythmic flow in the syllabic/neumatic genres. Some modern performers simply let their subjective musical intuition guide the performance, trying in various ways to respect the rhythmic signs listed below, while others again have applied different interpretations and theories related to the New Method.[139]

[134] *Ps.-Damaskenos,* 446. See also Alexandru 1998.

[135] An introduction to the *Forschungsgeschichte* is available in Hannick 1991.

[136] v. Biezen 1968 and Arvanitis 1997.

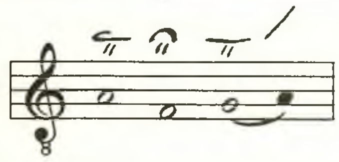
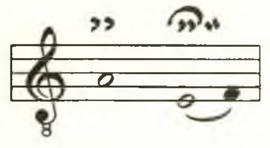
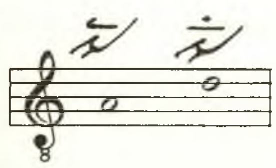
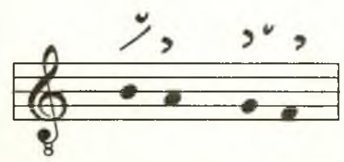
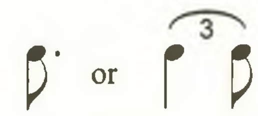
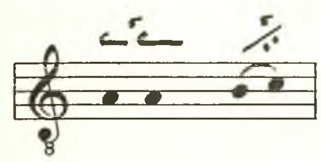
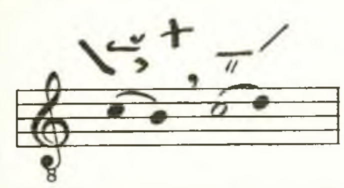
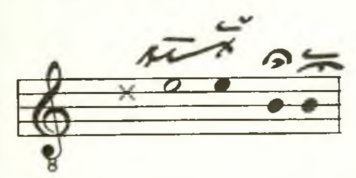
[137] see Tillyard 1935, 25.

[138] The fixed and marked *ictus* in some performances of Neobyzantine chant may be compared with mensuralist interpretations of Western plainchant that prevailed before the chant restoration under the influence of Solesmes became the most widespread standard, cf. Apel 1958, 126-30.

[139] e.g. Raasted 1982 and Arvanitis 1997. Cf. Ex. 18.

35. Conspectus of the rhythmic signs

(see §§ 36-39 for further comments)

Shape(s) and name	Typical applications	Comments	MMB-Transcripta
 *diplḗ* διπλή		doubles the duration of an interval sign or prolongs it considerably	
 *dýo apóstrophoi* δύο ἀπόστροφοι		as *diplḗ* in downwards movements (See also interval signs)	
 *krátēma* κράτημα		lengthens a note considerably and adds possibly a slight ornament.	
 *klásma* or *tzákisma* κλάσμα or τζάκισμα		lengthens the note somewhat; occurs regularly before descending notes.	
 *gorgón* γοργόν		indicates a quick performance of the sign or signs affected.	*Accelerando*
argón ἀργόν		indicates a slow performance of the sign or signs affected, rarely used.	*Ritardando*
 *staurós* σταυρός		indicates probably a slight pause (breath?) or a kind of *ritardando*	
 *kratēmokoúphisma* κρατημοκούφισμα		probably a prolongation with *koúphisma* quality.	

36. *Diplḗ*, *dýo apóstrophoi*, and *krátēma*

The theoretical treatises often group these three signs for considerable lengthening together, and they define the effect both as a 'doubling' (the actual meaning of *diplḗ*) of an otherwise unspecified duration, the *chrónos*, and as a 'slowing down', *argía*. The *krátēma* ('strengthening') is originally a ligature of *diplḗ* and *petasthḗ*, and as it possessed a distinct 'cheironomy' it might have preserved some dynamic characteristics of the *petasthḗ* too.[140]

[140] e.g. *Gabriel Hieromonachos*, lines 302-7.

37. *Klásma* or *tzákisma* ('breaking', 'fracture')

The *klásma* (*tzákisma*) is in the Byzantine chant manuals not only explained as lengthening 'by the half',[141] but also as a 'slight' lengthening,[142] while others emphasise the fact that the *klásma* is regularly followed by a descending sign and 'strengthens' the sign with which it stands.[143] It is therefore problematic to synthesise an exact interpretation of its rhythmic and dynamic properties, except to conclude that it apparently affects the first of two signs.[144]

38. *Gorgón* ('quick') and *argón* ('slow')

The exact rhythmical implications of the quick and slow performances indicated by *gorgón* and *argón* respectively are not entirely clear from the medieval theoretical texts. In the later period, *gorgón* is regularly put above the *dýo kentḗmata*, and a quick performance of this group and its downwards counterpart, the *hyporrhoḗ*,[145] is confirmed in the translations of chants into the 'New Method' notation, where a *gorgón* indicates that two signs together have the duration of one 'beat' of the basic rhythm. The *gorgón* seems to be a fixed part of the so-called 'small' interval signs (§ 30), *tromikón* figures (§ 48), and is frequent in the repeated two- to four-note progressions characteristic of the kalophonic style (§ 79).

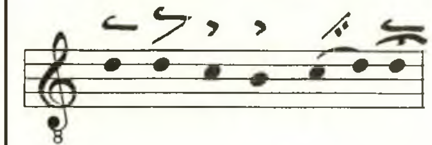
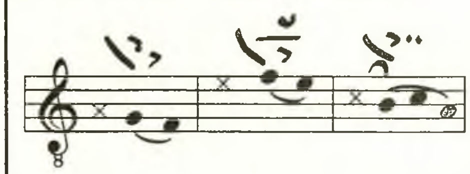
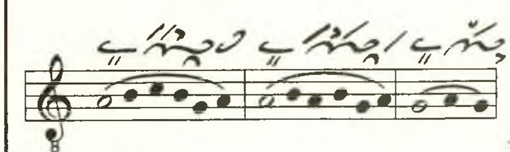
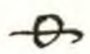
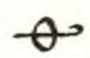
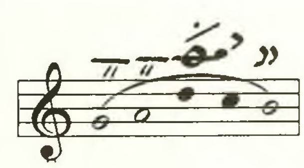
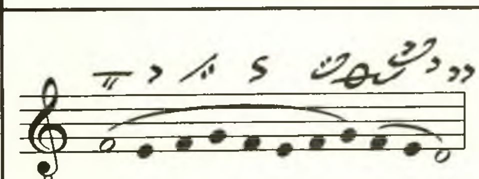
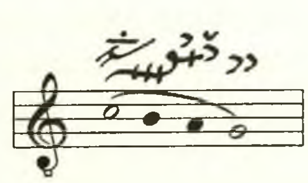
39. *Staurós* ('cross')

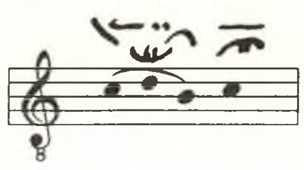
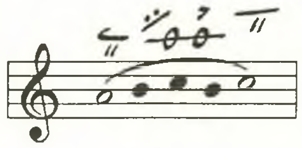
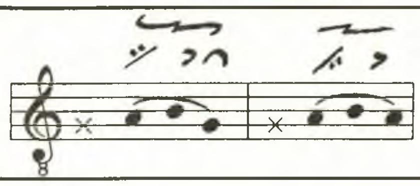
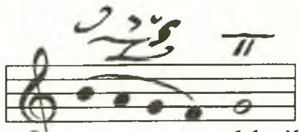
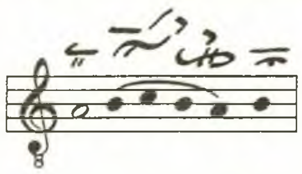
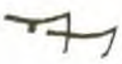
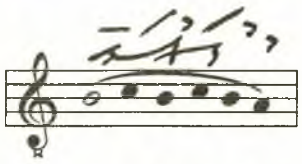
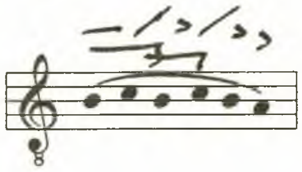
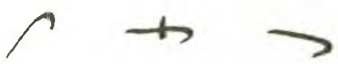
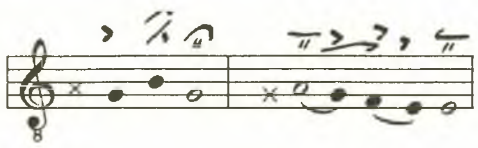
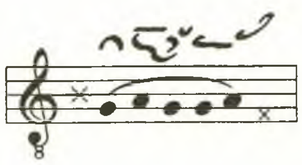
Staurós is used most frequently in the later period of the Middle Byzantine notation. It is often placed immediately before the end of a phrase, between a prolonged note and a 'leading-on' element from prolonged *c* or *F*.

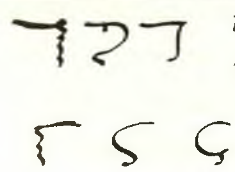
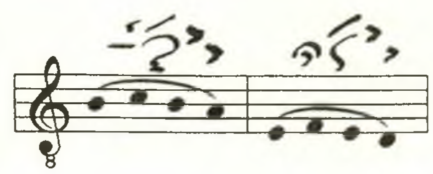
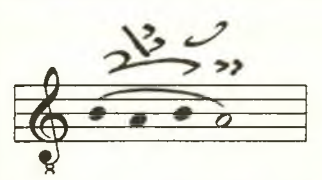
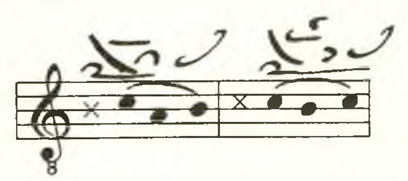
[141] e.g. *Ps.-Damaskenos*, lines 801-2.
[142] ibid. lines 469-71.
[143] *Akribeia*, lines 245-54.
[144] Compare the rendition of *klásma* according to the MMB Transcripta series (§ 12) and van Biezen (§ 14).
[145] cf. the treatise edited by Stathis 1978, 48.

40. Conspectus of the phrasing signs and group signs

(see §§ 41-51 for further comments)

Shape and name	Typical applications	Comments	MMB-Transcripta
 *apóderma* ἀπόδερμα		used at the end of musical phrases, in the later period also at the end of whole sections and melodies. All genres. § 41	
 *bareía* βαρεῖα		accompanies a descending two-note figure, occasionally a descending three-note figure. All genres. § 42	
 *píasma* πίασμα		accompanies a descending figure with two, but often three or more notes. All genres. § 43	*dim.*
 *xerón klásma* ξηρὸν κλάσμα		accompanies conventional figures with two to four notes. All genres. Can replace *tromikón*. § 44	*mezzo-staccato*
 *kýlisma* κύλισμα		accompanies conventional (cadential) figurations with three to six notes. § 45	
 *thematismós* θεματισμός  θεματισμὸς ἔσω *and*  θεματισμὸς ἔξω	 	accompanies a conventional cadential melisma with a characteristic upwards third (*thematismós éso*) or fourth (*thematismós éxo*) leap. *Sticherárion-Heirmológion.* § 46	
 *théma haploún* θέμα ἁπλοῦν		accompanies a conventional downwards 'minor' third cadence (see also § 72). *Sticherárion-Heirmológion.*	
 *ouránisma* οὐράνισμα		accompanies a conventional downwards movement with a *krátema* or *píasma* and klásma, often followed by *thematismós* or *théma haploún* in the *Sticherárion-Heirmológion* from the 14th century. § 51	

Shape and name	Typical applications	Comments	MMB-Transcripta
 *epégerma* ἐπέγερμα		accompanies a conventional motive including a semitone step. All genres, from the 14th century.	
 *thes kai apóthes* θὲς καὶ ἀπόθες		accompanies a rising, cadential five-note figure. *Sticherárion* and *Heirmológion* from the 14th century.	
 *parakletiké* παρακλητική		accompanies an arch movement with *oxeía* + *dýo kentémata*. § 47	
 *sýnagma* σύναγμα	 *parakletiké*	a conventional figure from the *Asmatikón*, in the *Sticherárion* often followed by *théma haploún*.	
 *chóreuma* χόρευμα		in the *Sticherárion* from the 15th century, rarely used, though the melodic group is relatively frequent.	
 *argosýntheton* ἀργοσύνθετον *and*  *gorgosýntheton* γοργοσύνθετον	 	used from the 14th century, in melismatic genres. 'Slow' and 'quick composite' respectively.	
 *antikénoma* ἀντικένωμα		accompanies various ascending movements. Probably originally belonging to the *Psaltikón*/*Asmatikón*.	
 *parakálesma* παρακάλεσμα *or*  *héteron (parakálesma)* ἕτερον (παρακάλεσμα)		Frequent in the *Psaltikón*, in the kalophonic styles often repeated in long sequences.	

Shape and name	Typical applications	Comments	MMB-Transcripta
 *tromikón* τρομικόν  *(tromikón) streptón* στρεπτόν *(tromikón) ekstreptón* έκστρεπτόν		accompanies a four-note group, originally in the *Psaltikón* and *Asmatikón*, frequent in the kalophonic style. § 48	
 *homalón* ὁμαλόν		accompanies various traditional four- to six-note figures. Originally in the *Psaltikón-Asmatikón*, from the 14th cent. all genres. Replaces occasionally *tromikón* and *xerón klasma*.	
 *psephistón* ψηφιστόν		used with an ascending sign or *íson* before a stepwise descent. Originally *Psaltikón-Asmatikón*. § 49	
 *antikenokýlisma* ἀντικενωκύλισμα		used with various three- to five-note motives, originally *Psaltikón-Asmatikón*.	
 *lýgisma* λύγισμα		used with different three-note motives, all genres from the 14th century, frequent in the kalophonic styles.	

41. *Apóderma* ('skinning off the hide')

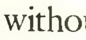
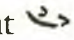
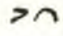
The sign has traditionally been interpreted as a prolongation sign (*tenuto* in the MMB Transcripta), due to its placement over the final note of musical phrases. This interpretation is correct for the latest stage of the Middle Byzantine notation, as becomes clear from the translations into the 'New Method', but it is uncertain whether it is valid also for the medieval period. From the 14th century, a red *diplé* (prolongation sign) is occasionally placed together with the *apóderma*. This evidence, taken together with the absence of the sign at the end of chants and the scarcity of variant readings *apóderma* instead of *diplé* or *dýo apóstrophoi* in the earlier period, might instead of prolongation suggest a particular 'codal' phrasing.[147] The frequent placement at the end of interior phrases rather than of whole sections might suggest a connective effect, maybe a snapping off the note for a quick breath and preparation of the next phrase.[148]

[146] The figuration occurs as cadential formula in the *Psaltikón*, but without the *ouránisma* sign, cf. Thodberg 1966, 64 sqq.

[147] cf. Raasted 1987, 17-18. None of the earlier theoretical treatises states that the *apóderma* belongs with the prolongation signs, while *Akribeia*, 705-8 (15th-16th cent.) states explicitly that it does not. *Gabriel Hieromonachos*, line 344, calls the sign *apódoma*, with a reference to the grammatical term *apódosis*.

[148] cf. Raasted 1987, 17.

42. *Bareía* ('heavy', 'grave accent')

The *bareía* accompanies a two-note figure of which the second is a descending interval. Normally, it spans only one syllable, but occasionally the *bareía* group is split over two syllables, even at the end of one phrase and the beginning of the next one. Notice that the last interval sign may be written below, , or even to the left of the *bareía*, , without any change of meaning. Likewise, the first sign of the *bareía* group is occasionally furnished with a *klásma,* but in respect to the frequency of variant readings with and without this sign, this difference seems to have been of little or no importance for the performance. Likewise, the frequent variant  for  suggests a certain freedom in the performance of *bareía* groups.[149] From the fourteenth century, small red *bareíai* are introduced with certain formulas.[150]

43. *Píasma* ('compression')

Originally the *píasma* was a doubled *bareía*. There is a tendency that the *píasma* combines with fewer different descending groups than the *bareía*. One of the most characteristic groups with *píasma* is the so-called *seísma* (§ 50).

44. *Xerón klásma* ('dry break')

The *xe̱ron klásma* was originally a ligature of *diplé̱* and *klásma*. The actual phrasing and rhythmic implications of the sign is not clear from the theoretical texts. In the *Striche̱rárion* and *Heirmológion*, it is often found at the end of a phrase, as a 'leading-on' alternative to a resting, interior cadence. It appears from frequent variant readings that the performance may have similar implications as that of *tromikón* and *homalón*.

45. *Kýlisma* ('rolling')

Kýlisma is often found at the end of a phrase, as a 'leading-on' alternative to a resting cadence in the *Stiche̱rárion* and the *Heirmológion*. Small *kylísmata* (often written in red ink) are found in *Stiche̱rária* from the fourteenth century onwards with this function. In the *Psaltikón*, the *kýlisma* is frequently used in combination with a three-note figure that can be placed at the beginning as well as in the middle of musical phrases,[151] akin to the use of *antikeno̱kýlisma* and *lýgisma* in the later period.

46. *Thematismós* ('setting', 'cadence')

While the basic sign θ is very old (see § 19), the graphic differentiation between the *éso̱* ('inner') and *éxo̱* ('outer') versions of the *thematismós* does not occur until the fourteenth century. As a rule, the *thematismós* is set to the last syllable (seldom split between two syllables) of an oxytone word ending a medial musical phrase. Occasionally, the *thematismós* constitutes a whole phrase in itself, set to a disyllabic oxytone word.

47. *Parakletiké* ('appealing', 'calling for assistance')

In the later *Stiche̱rárion-Heirmológion*, the *parakle̱tiké̱* is often used to mark the peak of a melodic motive. Possibly it has a melodic-modal significance, as the top pitch is often placed in the distance of a third from the basic pitch of the preceding melodic phrase.[152] In the kalophonic styles the sign has another 'modal' function: it is used at the very beginning of chants, as a 'quasi-intonation' with two notes, rising from one whole-tone below to the starting pitch of the chant (see § 79).[153]

149 cf. Raasted 1987, 20-21.
150 cf. MMB XI, Pars suppl. 8, note 27.
151 cf. Appendix, plate 13, line 9 from above.
152 see Troelsgård 1995, 96-7. The *parakle̱tiké̱* appears after 'high position' MSi in the Middle Byzantine manuscript Athos, Koutloumousiou 587, which is a retention of the Palaeobyzantine usage.
153 This practice points in direction of the later use of brief intonations as alternatives to the traditional *e̱ché̱mata,* Raasted 1966, 147-49.

48. *Tromikón* ('trembling')

This sign appears with inverted shape and has three different names in the *papadikaí*: the basic form is denoted *tromikón*. In addition, *tromikón strépton* ('mirrored *tromikón*') and *ekstreptón* ('re-mirrored *tromikón*') is used, probably to create a visually easily conceivable picture in immediate sequences of several *tromiká*. This is seen both in the *Psaltikón* and in the kalophonic styles. Notice that also the *parakálesma* has a mirrored form (*parakálesma ekstreptón*, along with the other 'variant shape', the *héteron* (*parakálesma*).

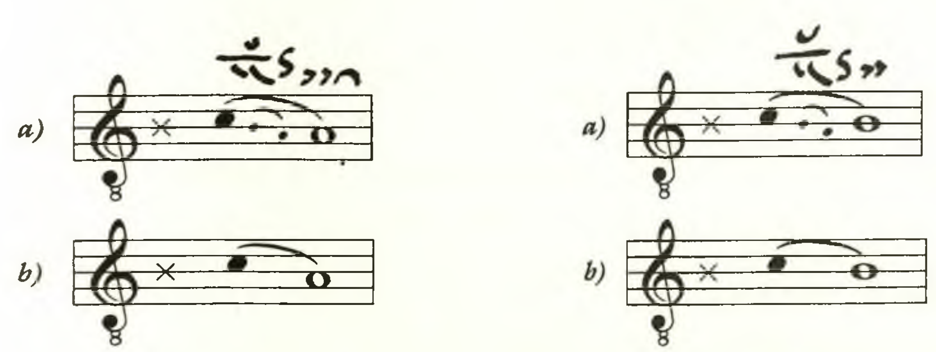
49. *Psephistón* ('counted')

The function of this sign is not clear from the medieval treatises, as the name is only explained etymologically as referring to the counting of descending steps from a peak note furnished with *psephistón*.[154] In the latest phase of the Middle Byzantine notation the sign conveyed a special dynamic accent to the interval sign with which it stands.[155]

50. The *Seísma* ('shaking') group

The group called *Seísma* is the only exception from the rules of combining the interval and group signs. The group has no special 'great sign' of its own, but consists of *píasma* and *hyporrhoé̱* preceded and followed by an interval sign, the first of which is often furnished with *klásma*.

It is characteristic that the *hyporrhoé̱* in this figure loses its interval value and is regarded only as a kind of ornament, which can be rendered as grace-notes or eliminated in transcription. Instead, the last interval sign of the *seísma* group, normally a descending one,[156] is measured directly from the first interval sign, placed on top of the *píasma*.



51. The terminology of the subsidiary signs

In the preceding paragraphs I have given approximate English equivalents of the Byzantine neume names, and here follows an additional brief list: *théma haploún* ('simple cadence'); *epégerma* ('waking up'); *thes kai apóthes* ('put and put away'); *sýnagma* ('gathering'); *argosýntheton* ('slow composite'); *parakálesma* ('appeal'); *homalón* ('even', 'smooth'); *lýgisma* ('twisting').

It is obvious that the Byzantines loved to invent fanciful names for the neumes. These names seem to refer to features as different as the graphic form itself (e.g. *staurós*, 'cross', and *kéntema*, 'point'), cheironomy (e.g. *petasthé̱*, 'spreading out wings'), metaphors on the the actual sounding (e.g. *seísma*, 'shaking'), and specific positions of the neume in the musical phrase (e.g. *énarxis*, 'beginning'). Even a characteristic word recurrently set to a certain melodic figure may have inspired the

[154] e.g. *Gabriel Hieromonachos*, lines 320-2.

[155] As in 'New Method' translations, see Chrysanthos 1832, 58-9.

[156] In the 'long *Psaltikón* style' (e.g. in Vat. Ottob. gr. 393, fols. 22v-24), the last interval of the *seísma* is occasionally ascending one step in relation to the first interval sign.

nomenclature, as with the descending formula *ouránisma* ('heavening'), often sung to the word *ouranós* ('heaven') in the *Stichērárion*.[157]

Though this associative and multiform nomenclature certainly worked efficiently as a mnemonic device for the singers who lived in the medieval Byzantine tradition it is less than transparent to 'outsiders' such as modern performers and chant reseachers. This hermeneutical 'closedness' has created a lot of dispute regarding a 'correct' interpretation and the actual performance of the signs.[158] Even more than in the case of the dynamic qualities of the interval signs, it should in this connection be remembered that any specific way of understanding and performing the subsidiary signs will always depend on a certain degree of hypothesis and reconstruction.

52. Variant neumations ('red variants')

Variant neumations often appear above the 'main' notation, frequently written with a smaller pen and in red ink. The variant passages are coordinated with the syllables of the main text, and may replace the main notation for a shorter or longer stretch of the melody. A corresponding pair of variants may indicate a partial transposition of the main melody.

In quite a few cases, the variant neumations belong to the manuscript as it was planned by the first neumator,[159] while they in other cases represent later additions. The smallest variants are of purely orthographic character, suggesting for example *dýo apóstrophoi* instead of *apóstrophos* with *diplḗ*, or placing *dýo kentḗmata* to the right of an *oxeía* instead of to the left.[160]



Example 24

Greater variants may reflect different melodic traditions, perhaps identifiable in other manuscripts. Thus, it is a frequent phenomenon that the 'main notation' in one manuscript appears as a red variant in another.

[157] The word *ouranós* ('heaven') occurs twice on this descending formula+*thematismós* at the beginning of the Middle Byzantine *Stichērárion* (*SAV* 12-13) and at least twice more (*SAV* 67 and 309). In the Chartres notation, closer to the formative period of the Byzantine melodic notation, the sign called *ouránisma* in the neume list of MS Laura Γ 67 (10th-11th cent.) corresponds more regularly to the Middle Byzantine *thematismós*, also with other 'preparation phrases' than the later Middle Byzantine *ouránisma*. Thus the word *ouranós* coincides with the Chartres *ouránisma* in *SAV* 23, 141, 143, 191, 208, 231, 249, 326, 457, 464, 473, 474, 556, 662, 1351, and 1410.

[158] On the Byzantine terminology of musical signs, see Hannick 1977 and Alexandru 1998.

[159] Raasted 1981, 999.

[160] Raasted 1981, 1004, demonstrates that this differentiation was already current in the Coislin notation, probably as a distinction between a semitone and whole tone step involved with the *dýo kentḗmata*. See also MMB XI, pars suppletoria, 7, and *Ps.-Damaskenos*, Kommentar, 149-50.

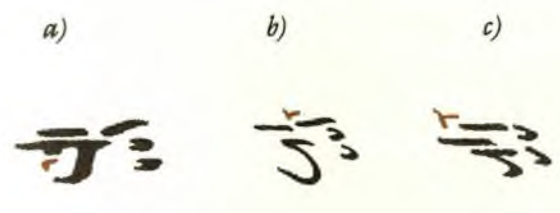


Example 25

53. Palaeographical distinctions

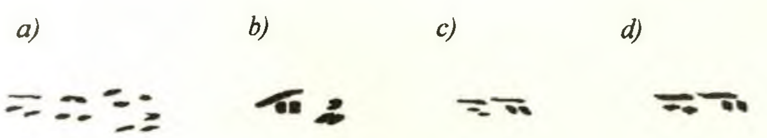
Each musical source has its characteristics, and it may take a while for a reader to get acquainted with the personal habits of a particular neumator. A number of neumes might resemble each other, which occasionally can lead to some confusion. A few such situations will be described in the following.

The *olígon* may be mistaken for an *oxeía*, the former being in principle a horizontal stroke, while the latter rises from the left to the right. In the *tromikón,* for example (Ex. 26 a), the second interval sign is traditionally an *oxeía,* although it might be written almost horizontally (Ex. 26 b-c).



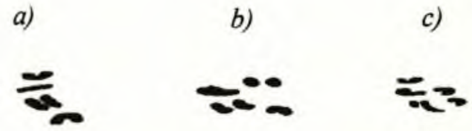
Example 26

The *diplé* is occasionally written as two dots (Ex. 27 a), and it can therefore be necessary to notice the ductus of the pen to distinguish it from *dýo kentémata* which in its turn is sometimes written almost as two strokes (Ex. 27 b). Often the only distinction is that two strokes of *diplé* are inclining slightly to the right, while *dýo kentémata* slope slightly to the left (Ex 27 c-d).



Example 27

Sometimes, a short *píasma* can resemble the *dýo kentémata,* but the neumatic context will most often clarify the situation. In the later period, the *píasma* is normally written with slightly curving strokes of unequal length which might again lead to confusion with the late shape of the *krátema*.

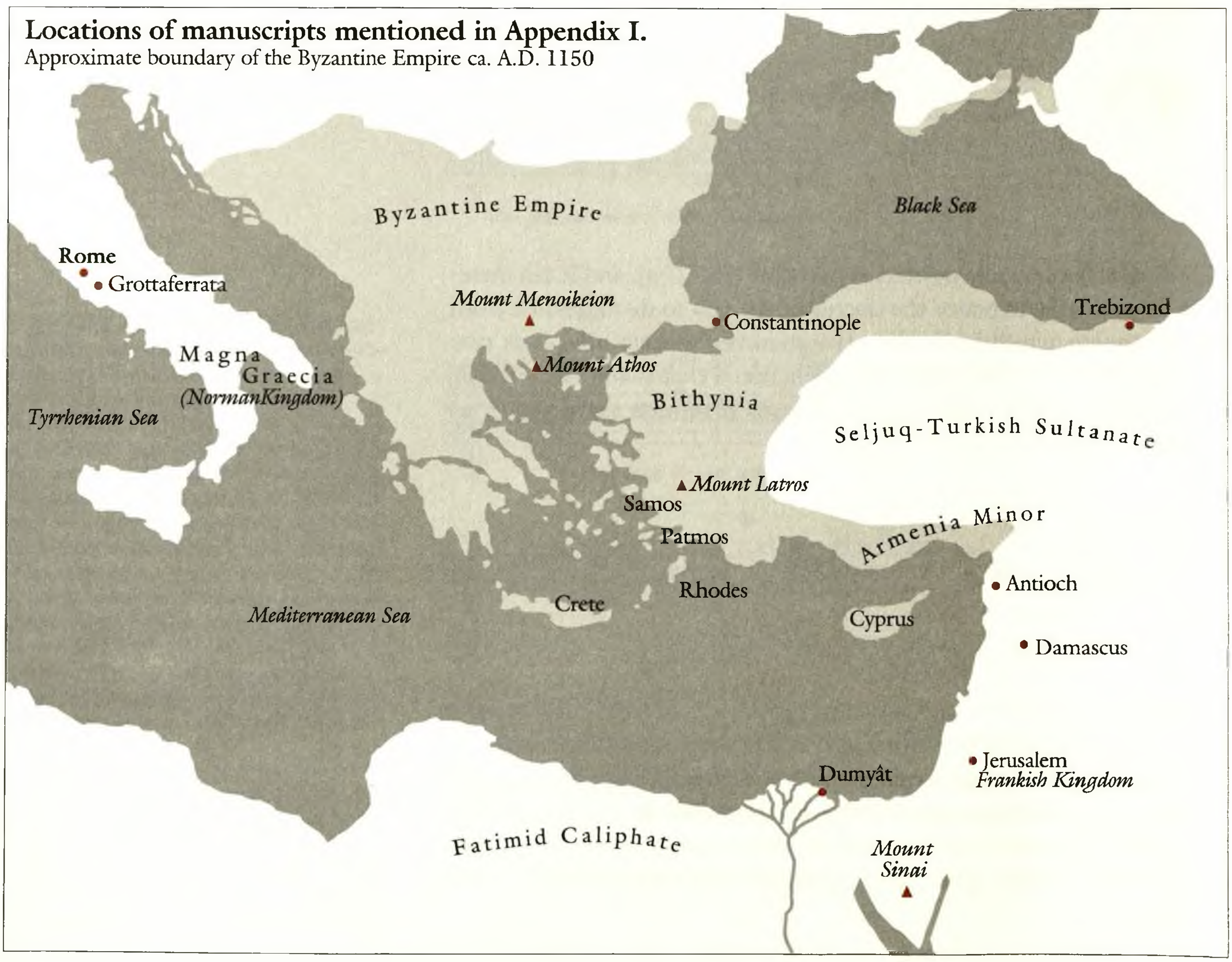


Example 28

Finally, it should be mentioned that the *psephistón* in the earlier sources can be confused with the *hyporrhoé*, especially in manuscripts from Southern Italy, see Appendix 1, Plate 8.

54. Regional and individual neume styles?

Only a small percentage of the preserved manuscripts written in the Middle Byzantine notation have a scribe's signature indicating its date of production, and even fewer indicate the place of origin, the contractor or the destination. Nevertheless, the few manuscripts that actually give at least some of these data are very important as a means of comparison with undated manuscripts, and might help to determine whether distinct local traditions of neumation existed. In addition to exact information contained in the colophons, a manuscript might betray a certain origin by adding chants for local patron saints to the standard repertory, or by using a specific script in the chant texts which can be identified as belonging to a specific region and/or period with



Locations of manuscripts mentioned in Appendix I.
Approximate boundary of the Byzantine Empire ca. A.D. 1150

the help of the methods developed in the general study of Greek palaeography.

It is clear that the aesthetic ideals in shaping the musical signs developed over the centuries, as indicated in the *conspectus* of neumes given above (§§ 26, 35, and 40). On the other hand, it seems that within a given period there was an expressed uniformity in the neume-style throughout the various regions, which probably was due to the high standard of communication lines in the Byzantine Empire, and later also between the Patriarchal See of Constantinople and the various ecclesiastical and monastic centres after the Ottoman conquest. Therefore, the most recent palaeographic studies concerning musical manuscripts have recommended not to overstate the importance of particularities in the musical notation when dating and locating chant manuscripts.[161] Later 'corrections' and additions together with archaizing tendencies and the presence of more than one different text scribe and/or one neumator in a given manuscript complicate the situation further.[162] However, the origin of musical manuscripts can occasionally be determined by other codicological features, such as writing material and layout on the page,[163] or they display individualistic traits by which a few neumators can be identified.[164] Still, the various individual neume styles seem to represent variants of a universal neumation code rather than different local styles.

The Appendix shows twenty-two examples of different Middle Byzantine musical manuscripts of known date and provenance,[165] chronologically arranged. This selection gives at least an impression of the range of variation and the general developments of the notation. The map shows the geographic distribution of the localities mentioned and the approximate frontier of the Byzantine Empire at the introduction of the Middle Byzantine notation in the mid-twelfth century.

[161] Doda 1989 and Papathanasiou 1996.
[162] see Raasted 1964.
[163] For example the frequent recycling of old manuscripts for new chant books (palimpsests) and a marked 'airy' layout with few lines on each page in relation to the size of the manuscript are characteristics of manuscripts with origin in Southern Italy (see Appendix, nos. 4, 8, 11, and 13).
[164] As an example of this, two of the earliest dated Middle Byzantine manuscripts, the *Stiche̱rárion* Sinai gr. 1218 (1177) and the *Psaltikón* Patmos 221 (1161-79), share characteristic graphics of *petasthé̱* and *xe̱rón klásma* though they belong to two distinct genres, and the authenticity of the two colophons mentioning a certain Nikephoros as scribe is thus strongly supported (cf. Thodberg 1966, 21), see Appendix, Plates 2 and 3.
[165] The period from the fall of Constantinople (1453) until the general acceptance of the New Method (c. 1820) is sparingly represented here, as a comprehensive set of facsimiles and descriptions can be studied in Chatzigiakoumis 1980 and Stathis 1975[1], 1976, and 1993.

VI Modes, melody and intervals

55. The *októechos*

All melodies of medieval and post-medieval Byzantine Chant are ascribed to one of the eight 'ecclesiastical' modes. The system of eight modes, the *októe̱chos*,[166] was apparently operative already in the late sixth century,[167] prior to the invention of the melodic notation, but the origins of the system remain obscure.[168] Some theoretical treatises of Byzantium classify with more modes, including also 'middle modes' ('*é̱choi mésoi*'), placed at the distance of a third between the authentic and plagal variants, and also add variants of the second plagal ('*nenanó̱*') and fourth plagal ('*nanà*') as individual modes.[169]

56. Names and numbering of the modes

The arrangement of the Byzantine *októe̱chos* differs from modal numbering in the West. In the Eastern Churches, the *októe̱chos* starts with the four authentic (*kýrioi*, 'dominating')[170] modes, followed by the four plagals (*plágioi*, 'oblique'), with the irregularity that the third plagal is invariably called *barýs* (Gk. 'heavy', 'deep') in the chant manuscripts, whereas the theoretical treatises often use the regular denomination 'Third plagal' as an alternative.[171] This system of numbering the modes can be compared with the Slavonic and Gregorian terminology:

Byzantine	Slavic	Gregorian
1	1	1
2	2	3
3	3	5
4	4	7
1 plagal	5	2
2 plagal	6	4
barýs, 3 plagal	7	6
4 plagal	8	8

[166] The term also refers to a book (*Októe̱chos, Parakle̱tiké̱*) which contains the cyclically repeated chant texts of the long period of the 'Movable Church Year'.

[167] Treu/Diethart 1993 published Papyrus Vind. G. 26.189, a codex with *tropária* in second and third plagal modes which can be palaeographically dated to the 6th cent., and a *tropárion* (P. Vind. G. 41.261) with ascription to the fourth mode, *e̱ch<os> d'* from the 6th-7th cent. Sarischouli has published a papyrus fragment, Pap. Berol. 21319, with a *tropárion* ascribed to *pl<ágios> b' <=deúteros>*, "second plagal", dated to 6th-7th cent. (Sarischouli 1995, 53-5). From the following period more modally ascribed chants are found, e.g. a fragment with *tropária* for a *kanó̱n* ascribed to *é̱ch<os> pl<ágios> a'<=pró̱tos>*, Pap. Manchester, Rylands 466, that can be dated palaeographically to the 7th-8th cent. Cody 1982, 103 identifies in Sinai gr. 212 a Melkite lectionary with a list of the eight modes from the 7th, or more likely, the 8th century.

[168] Alygizakis 1985 deals with possible sources for the early history of the Byzantine *októe̱chos*.

[169] e.g. the earliest Byzantine treatise, *Hagiopolites* § 2, describes ten modes, belonging probably to the Palestinian tradition, instead of the eight modes of the Studite, Constantinopolitan tradition. Later treatises include also four *mésoi* and *paramésoi*, cf. Alygizakis 1985 and 1997.

[170] Husmann 1976, 174 mentions an obsolete use of the term '*authentikós*' in Sinai gr. 212 (7th-8th cent.).

57. Modality

The criterion for ascribing a given *échos* to a particular melody seems to have been not so much a specific scale structure observed throughout the piece as the application of a specific set of melodic formulas, considered to belong to one mode in one of the chant genres. Some of these melodic formulas are common to more than one mode, even to more than one genre, while others are specific to one mode in one genre only.

Often a fixed, conventional succession of the formulaic elements constitutes this mode/genre complex, thus creating tendencies of establishing melodic types. For example, the *sticherá* of the first mode almost always include the main cadence of the *barýs* mode as a medial cadence, while one similar to the main cadence of the fourth plagal appears as medial in the second mode. The *sticherá* ascribed to second authentic, second plagal and *nenanó* modes stand apart by sharing the final cadence. Other 'modulations' occur with less regularity. The longer *sticherá*, generally speaking, might be said to have a polymodal character, including often melodic material characteristic of 'neighbouring' modes,[172] a few even artfully modulating through all eight, probably for didactic purposes.[173] Shorter *sticherá* and chants in other genres normally use a more limited repertory of formulas, or are built on other generative principles. The minimum measure of uniformity for chants belonging to the same mode is the use of a standard intonation (*échema*), which fixes a 'theoretical basic pitch' of the mode and the pitch of the first note to sing, and thus presents a melodic/modal context valid at least for the initial phrase of the chant, though it is normal that the same modality governs also a number of interior phrases and the final cadence.

Based on diagrams and text descriptions from the Byzantine fourteenth- and fifteenth-century treatises, supplemented by statistical evidence on the avoidance of certain leaps of a fourth in the *Sticherárion* genre, Strunk organised the 'basic pitches' of the modes in a 'central octave' from **D** to **d**, consisting of two disjunct diatonic tetrachords (see below §§ 60-61), which could be extended upwards and downwards by two adjacent conjunct tetrachords to cover the entire ambitus of the traditional melodies.[174] Founded on observations of the use and variation of medial signatures (see below §§ 64-67), Thodberg[175] and Raasted[176] have suggested that Strunk's 'tonal system' is not to be understood as a fixed scale, from which the melodies draw the totality of the tonal material, but a system in which the tetrachords may under certain conditions and in certain genres work as conjunct instead of disjunct,[177] possibly also in some cases involving chromatic progressions.[178]

The Byzantine modes often have an option of using different final tones: in the *Sticherárion* and *Heirmológion*, for example, the authentic modes can end on both the low theoretical basis and the upper fifth, while the upper fourth plays a significant role in the plagal modes other than *barýs*. In the *Psaltikón*, a genre that in a number of respects displays modal differences in relation to the *Sticherárion* and *Heirmológion*, finals a third above the theoretical basis are dominant in the second plagal and fourth authentic modes.[179]

58. The Modal Signatures

Already in the earliest preserved liturgical manuscripts without musical notation, the modes of the chants were identified by means of the

[171] 'Third plagal' is however used in some papyri from the 6th-7th cent. and in an 8th-9th-c. chant collection from Mount Sinai, St Petersburg, Russian National Library gr. 44 (Thibaut 1913, 10*-11*).

[172] cf. Husmann 1970¹ and Alygizakis 1997.

[173] On the octomodal *sticherá*, see Strunk 1942 and Husmann 1970². M. Alexandru has suggested to me that pieces modulating through several modes might also mark special festivity.

[174] Strunk 1942 and 1945.

[175] Thodberg 1960 and 1966, especially 154-7.

[176] Raasted 1966.

[177] Hence the rule of thumb of conjunct tetrachords from the later Byzantine theory: 'at the distance of a fourth the same *échos* is produced' (*pása triphonía ton autón échon poieí*), cf. Alygizakis 1997, 145.

[178] Raasted 1987, 23-9.

[179] cf. Thodberg 1966, 154-57 and Hintze 1973, 86-87. The peculiar, so-called 'double-gamma-endings' of this genre, added after the melodic 'final', are as yet not fully explained, see § 77.

Greek letter numerals from one to four, α', β', γ', and δ'.[180] In the plagal modes, the Greek letters π and λ are written on top of each other as an abbreviation of *'plágios'*, , except in *barýs* mode, which has its own abbreviation, , a ligature of the Greek minuscule letters β, α, and ρ. Sometimes the whole signature is preceded by the word *é̱chos*, often abbreviated as or .

59. Main Signatures (MSi)

In the Middle Byzantine notation, a few musical signs are added to the modal letters, and this complex constitutes the 'main signature' (MSi) of a piece. The MSi are graphic representations of small, traditional melodic intonations or *e̱ché̱mata* ('soundings', 'modalisations').[181] These were sung by a precentor, *doméstikos*, and were considered part of the chanting proper. The *e̱ché̱mata* thus indicated by the main signatures have a multiple function: they recall some melodic-tonal properties of a given mode, especially by fixing the position of the semitone step,[182] and they set the pitch of the starting note.

60. The *e̱ché̱mata* ('Intonations')

Each of the eight modes has its standard *é̱che̱ma* or 'intonation'. The intonation is texted with meaningless syllables of unknown origin, written with letters some of which do not even belong to the ordinary Greek alphabet.[183]

The first neumatic sign of each *é̱che̱ma* is invariably an *íson*. The *é̱che̱ma* consists then of a stable part to which different endings, *ape̱ché̱mata*, can be added (see § 63), most of them having a low (*éso̱*, literally 'inner') and a high (*éxo̱*, 'outer') variant. On the basis of Byzantine theoretical treatises[184] and the use of MSi in the musical manuscripts, it has been established that the initial notes of the eight standard intonations can be fitted into a diatonic octave from **D** to **d**.[185]

[180] The modal signatures represent stylised forms of these letters. First mode is represented by minuscule *álpha* with a downwards stroke to the right, and the second mode has the 'open', minuscule *bé̱ta* with a similar stroke. The *délta* of fourth mode is shaped either as minuscule or majuscule (see § 61).

[181] The connection between signature and *é̱che̱ma* was first established by Strunk 1942 and 1945. The intonations have been studied in greater detail by Raasted 1966.

[182] cf. Raasted 1966, 9 and 66.

[183] An *n*-sound that is represented in two ways: before epsilon it is written as , before alpha and omega as . Occasionally a normal Greek ν is used. These nonsense wordings may have inspired the Western 'NOEANE-formulas' that constitute a close parallel to the Byzantine *e̱ché̱mata* (see Raasted 1966 and 1991, Bailey 1971, and Hiley 1993, 331-3). Intonations are occasionally texted with *lége* or *légete* ('say', 'sing'), and a *'pálin'* ('again') is often used as a kind of sung repetition sign in the kalophonic style (cf. Raasted 1966, 66-71).

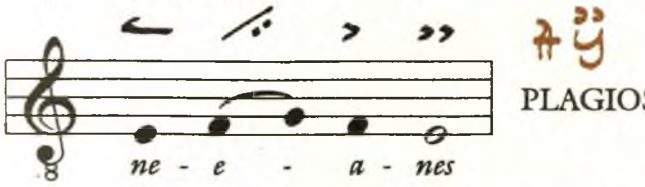
[184] Such as the descriptions in *Ps.-Damaskenos*, lines 685-95, or as depicted in the *Papadikaí* as diagrams in the shape of a wheel or a tree (e.g. Tardo 1938, 258-59).

[185] Absolute pitch depended of course on the voice ambitus and abilities of the singer(s).

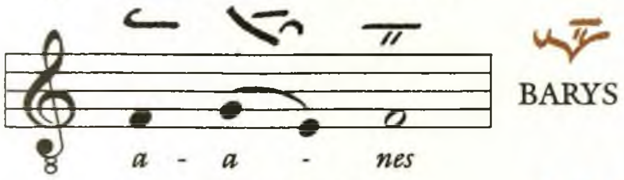
61. Conspectus of modal signatures and intonations



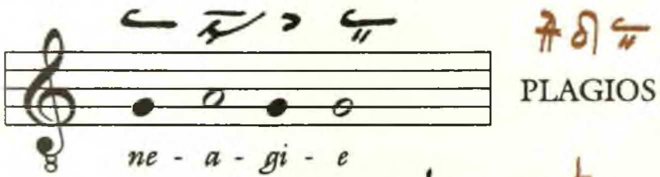
PLAGIOS PROTOS



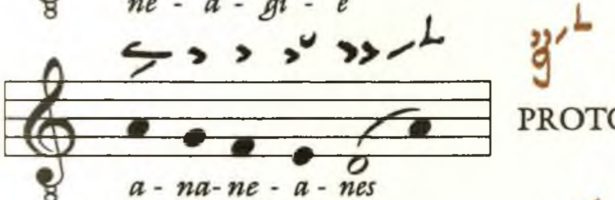
PLAGIOS DEUTEROS



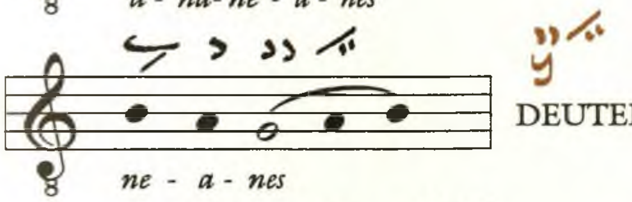
BARYS



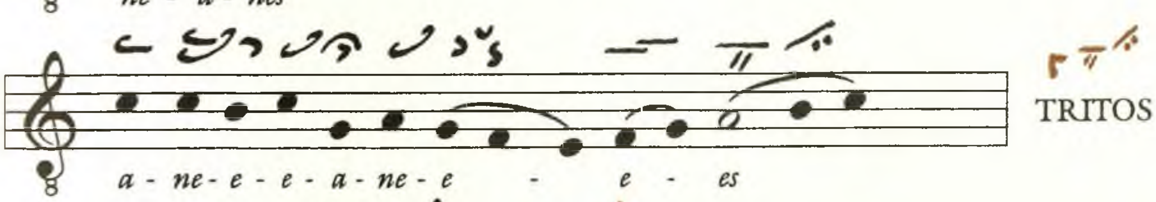
PLAGIOS TETARTOS



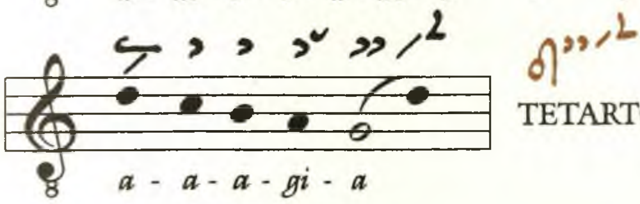
PROTOS



DEUTEROS

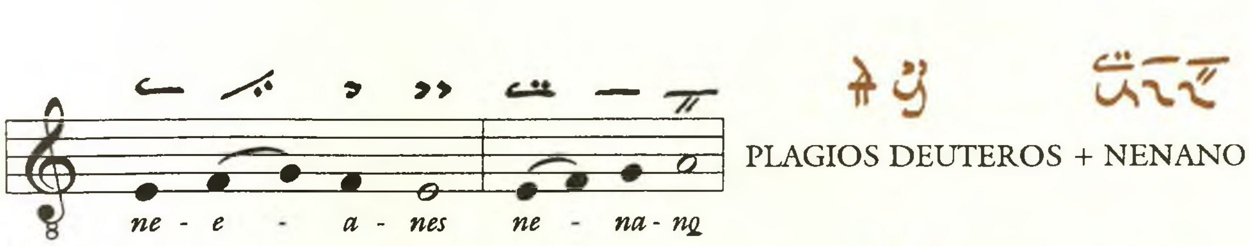


TRITOS

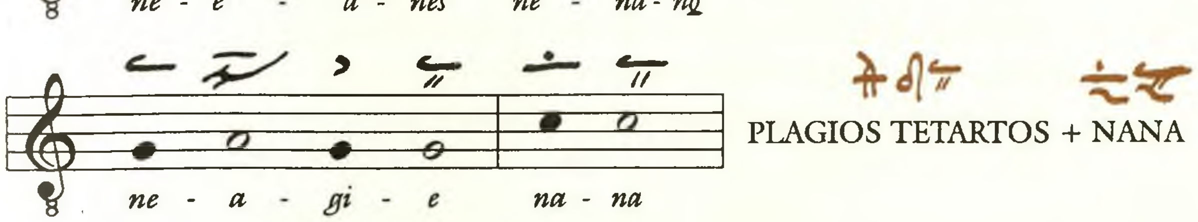


TETARTOS

Two further *echēmata* are in common use, the *nenanō* and the *naná*. They can stand alone but occur normally in combination with the *echē-mata* of second plagal and fourth plagal respectively:



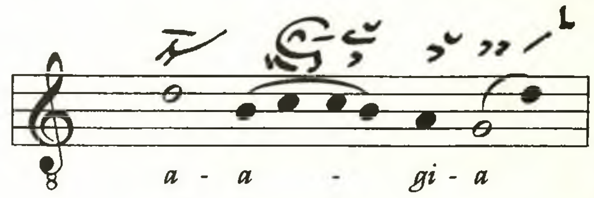
PLAGIOS DEUTEROS + NENANO



PLAGIOS TETARTOS + NANA

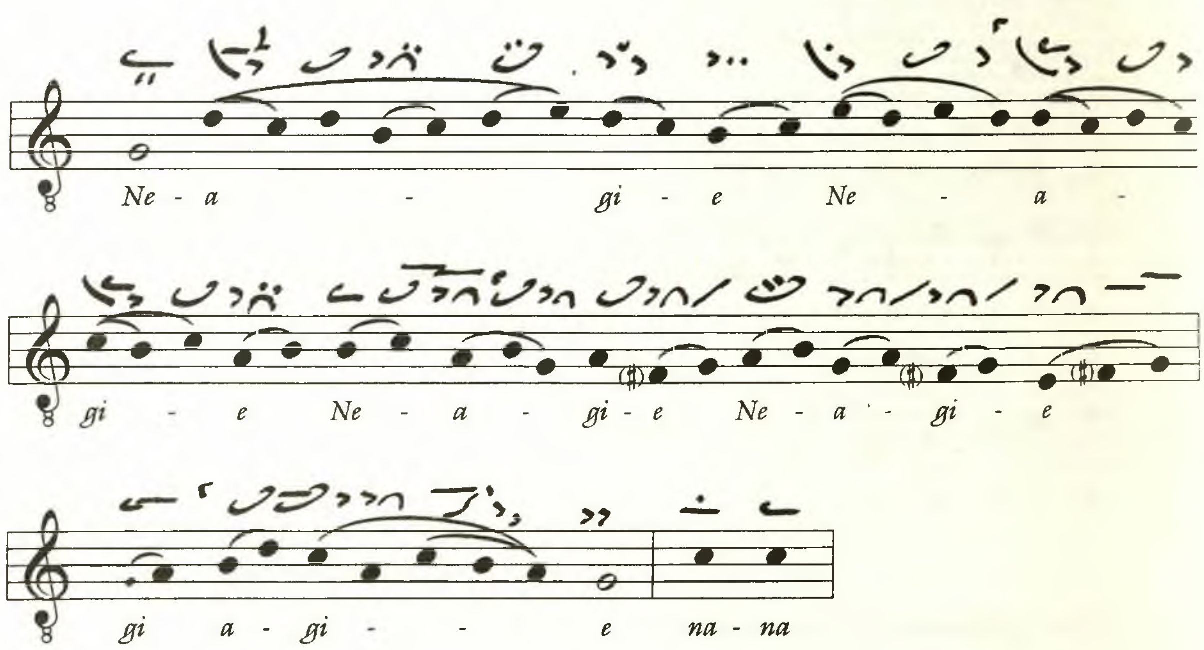
62. Expanded intonations

Occasionally the intonation melodies are written out as slightly ornamented prologues, preserving the melodic contour, starting and final notes of the standard intonation.



Example 29
(Grottaferrata, E.γ.IX, fourth mode intonation, see the Appendix, Plate 4 at the top)

A similar *échema* can be seen in Appendix, Plate 3, but even longer intonations were added as pure ornamentation. As the manuscript tradition is quite unstable on this point, it is not unlikely that we are here dealing with a medieval improvisational practice, mainly drawing on melodic material from the melismatic styles. As an example, the following long intonation reveals a clear influence from the so-called 'kalophonic' style (§ 79):



Example 30
(MS Athos, Laura Γ 71 (14th cent.), fol. 50v, fourth plagal + *naná* intonations)

63. *Apechémata* ('sounding-off', 'tails')

In order to obtain a smooth transition between the intonation formula and the opening of the melody proper, the fixed part of the intonation might be followed by a changeable 'tail', the so-called *apéchema*, comparable to the system of *differentiae* in Western psalmody as demonstrated by Strunk.[186] A number of such *apechémata* from the *Sticherárion* MMB XI are shown here:

[186] Strunk 1945.



Example 31
(Examples of *Apéchema* + *incipits*, through the modes)

64. Medial signatures (MeSi)

In longer pieces, modal signatures can occur between single phrases of chant. The number and distribution of such MeSi may differ from one manuscript to another, but normally a few placed between the main sections of longer chants will appear in all extant versions.

Raasted ascribed a practical function to the MeSi, indicating either a shift in tonality, a change of performer(s), or the end of a major syntactical unit of the chant text.[187] In a few places, medial intonations are written out, indicating the possibility that MeSi occasionally were sung,[188] but their main purpose was to clarify the tonal structure of the neighbouring phrases and to check the beginning and ending pitches of the melodic segments, which seems to be especially helpful in chant training, *metrophonía*. Thus the MeSi, both original ones and those added to the manuscripts later on, subscribe to a specific tonal interpretation of a given melody. MeSi might in these functions refer either to the melody of the preceding phrase ('retrospect' or 'backwards-looking'), the following one ('forward-looking', like the MSi), or both at the same time. A 'confirmatory' neume or group of neumes (§ 31) normally determines the interval distance between the last pitch of the intonation abbreviated by the MeSi and the starting pitch of the following phrase.



Example 32
('Unproblematic' MeSi from MMB XI)

The MeSi stand not primarily to signify a specific pitch, but are meant to clarify aspects of modality in the melodic framework of the neighbouring phrases. Bearing this in mind, it may be easier to understand a case such as the following, where a *naná* signature, which theoretically defines a fourth plagal mode modality in the upper register (basis **c**) and states the semitone step **b**-**c**, as being apparently misplaced on **d** in Example 33, manucripts a) and b). A possible explanation is that it helps to define the melodic progression in the following phrase, moving around **b** and **c**. Version c) is a much more regular expression of this modal area:

[187] Raasted 1958 and 1966, 66.
[188] Raasted 1966, 55 sqq.

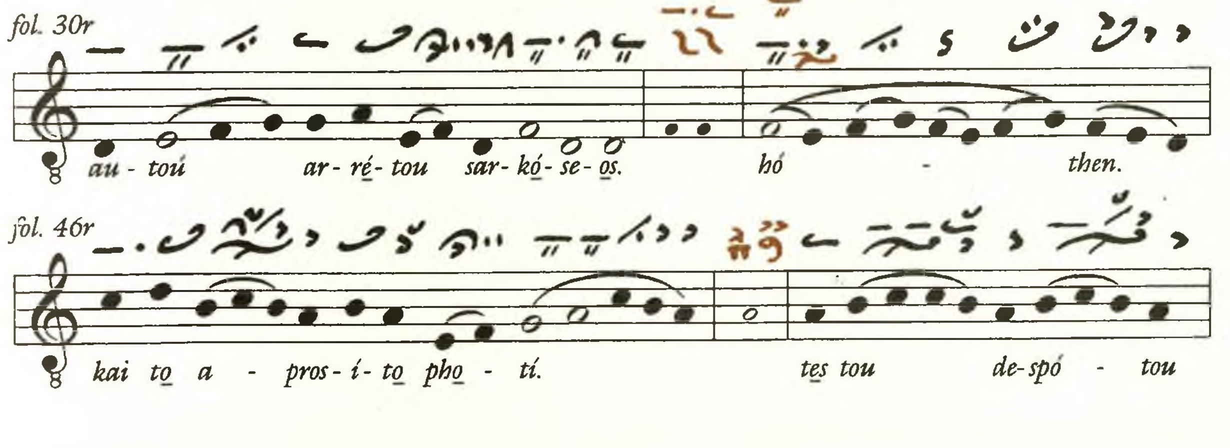


Example 33
(MeSi from *stichérón "Táde légei Kýrios tois Ioudaíois"*, a) Sinai 1218 fol. 204r, b) D fol. 245v, and c) A fol. 238v)

Admittedly, some MeSi are difficult to understand, especially those which are found only in one or very few of the preserved manuscripts. Therefore, it is often of great value to compare such difficult places with corresponding passages in other manuscripts.

65. Transposition

At times, MeSi appear in positions different from those defined in the theoretical system. This indicates that the melodic/modal context of a given mode has been transposed, often at the distance of a fourth, a fifth, or an octave from its 'theoretical' position. The following examples from the *Sticherárion* MMB XI show a *naná* MeSi on **F** (downwards fifth transposition) and a first plagal MeSi on **a** (upwards fifth transposition). In these cases, the interval structure immediately around the MeSi corresponds to that of the original (theoretical) position, as a consequence of the tonal system being in these cases based on disjunct tetrachords and 'fifth identity'.



Example 34
(Examples of fifth transpositions from MMB XI)

66. Modulation

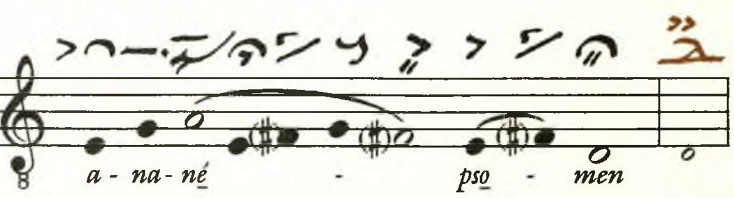
Byzantine melodies often include sections constructed from melodic material that is characteristic of another mode than the one indicated by the main signature and the opening phrase (cf. § 57). Such modulations may or may not be marked with a MeSi of the new mode introduced.

The following example shows a 'modulation', i.e. the use of formulaic/ melodic material characteristic of an *ēchos* different from the one in which the melody started, in this case a change from the first authentic mode into the *barýs,* which probably demands a **b**-flat in the transcription:[189]



Example 35
(Modulation from first mode to *barýs* mode in the *Sticherárion*)

Relatively often one will find MeSi that are not placed in their 'theoretical' position and therefore indicate that both a modulation and a transposition have taken place. Reading through the commentaries of the MMB Transcripta series, it becomes clear that the first generation of MMB editors often had recourse to such expressions as 'wrong signatures' and 'scribal mistakes' in these cases.[190] This approach was questioned by Thodberg[191] and Raasted[192] who rather tried to decipher this 'irregular' use of MeSi in the medieval tradition. Instead of putting these recurrent cases of 'unexpected' MeSi aside as errors, they demonstrated that modulations and/or transpositions were often hidden behind the apparently 'wrong' modal signatures. Thus, a fourth authentic signature on low **D** most likely indicates a progression similar to that of the fourth mode ending on **G**:



Example 36
(Thodberg's *anástama*)

and

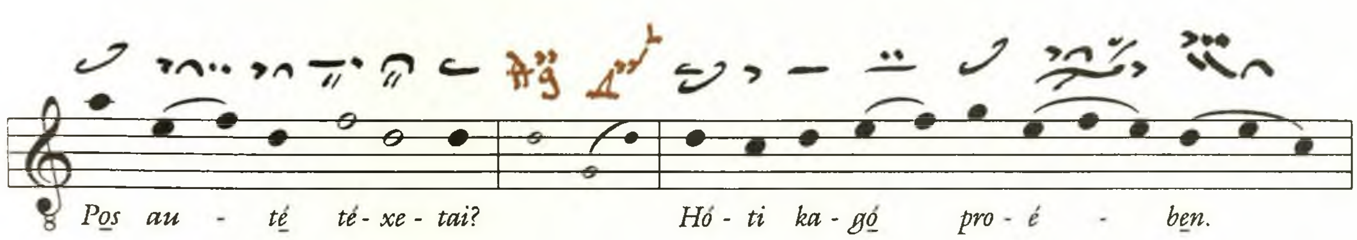


Example 37
(*naná* on **G** instead of **c**, possibly indicating a melodic context with a semitone step below the **G** (cf. Thodberg 1964 and Raasted 1966, 22 and 138)).

[189] In *barýs* **b**-natural is probably used in stepwise movements to **c**, while **b**-flat is used as highest note in a melodic phrase or in descending movements.
[190] see e.g. the description of MS Grottaferrata E.a.II in MMB, Transcripta II, p. XV.
[191] Thodberg 1960 and 1964.
[192] Raasted 1966, 20-22 and 1987, 22-31.

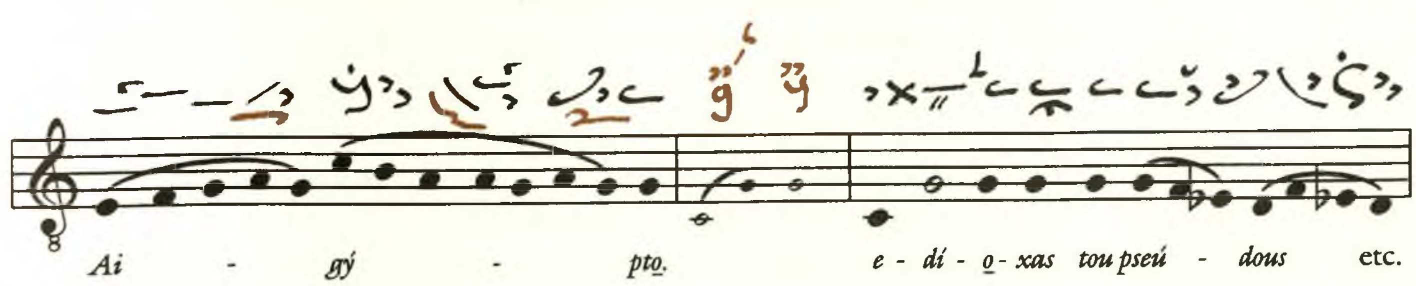
67. Multiple medial signatures (MeSi)

In manuscripts from the fourteenth century onwards, the type of modulation described in the preceding paragraph is at times clarified through the simultaneous use of two MeSi. In many cases both MeSi are set according to their theoretical basic position, with the one 'looking backwards' and the other 'forward', and in such cases there are no problems in the transcription. But occasionally, only one of these refers to the 'theoretical' pitch (of either the preceding or the following phrase, depending on whether it is 'backward'- or 'forward-looking'), while the other one will indicate melodic-intervallic properties of a mode into which the melody has modulated, i.e. the mode it was 'felt' to be. The Byzantines called the first mentioned MeSi practice 'of position' (*apó parallagḗs*), while the second was called 'of the melody' (*apó mélous*):[193]



Example 38
(Example from MMB XI fol. 136)

In this example, the first plagal MeSi seems to be put *apó mélous*, backward looking, in order to encompass the 'minor third' cadence of the preceding phrase, which is very characteristic of *stichḗrá* in the first plagal mode, but normally set in a position an octave below, namely between **F** and **D**. The fourth mode MeSi, on the contrary, is set *apó parallagḗs*, because it theoretically defines the final **d** of the cadence and the starting pitch of the next phrase: it is both forward- and backward-looking at the same time. This partial modulation to first plagal mode requires no accidentals in transcription. In the following example, the double signature is explained in a treatise on modulation to represent a transition from *deúteros*, cadencing on **G**, to *prṓtos* placed in the 'basic' pentachord **a-D**, the intervals of which must here be transposed to **G-C**, suggesting an **E**^{b} in the transcription:[194]

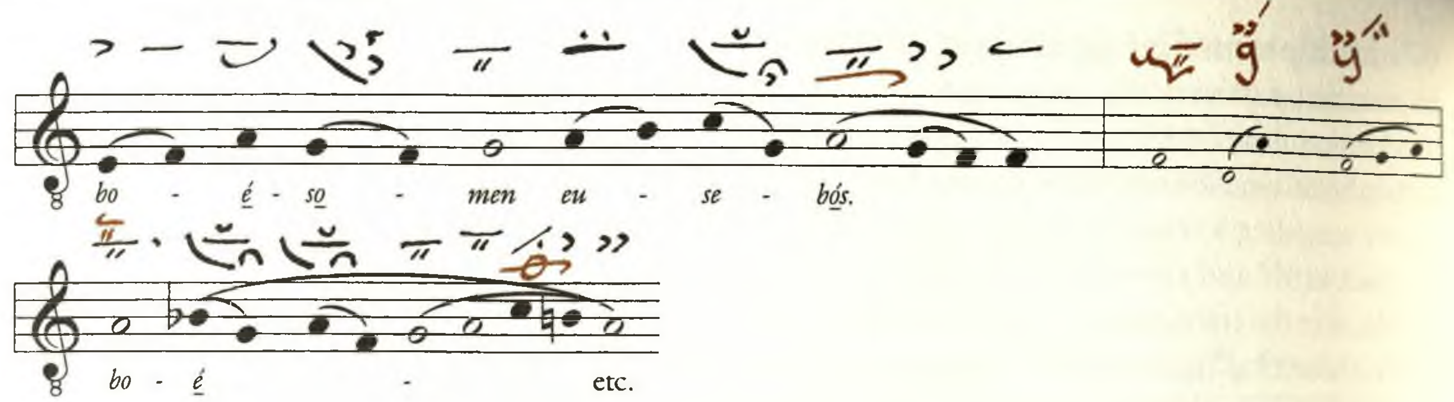


Example 39
(Sinai gr. 1506, fol. 168v kalophonic stanza (*oíkos* XI), *Lámpsas en tē Aigýptō*, from the *Akáthistos* Hymn in the redaction of Ioannes Kladas, 15th cent.)

The distinctions 'forward' and 'backward looking' combined with the dichotomy *'apó mélous'/'apó parallagḗs'* theoretically add up to a maximum of four MeSi positions. In practice, however, even three MeSi at once occur very rarely:

[193] Raasted 1966, 44-48. A late Byzantine treatise describes modulation indicated by double signatures in a selection of kalophonic pieces as follows: "The *parallagḗ* is second plagal, and in your mind you go on as first plagal", Schartau/Troelsgård 1997, lines 54-55.

[194] The place is explained in a late Byzantine treatise, cf. Schartau/Troelsgård 1997^{2}, lines 25-28.



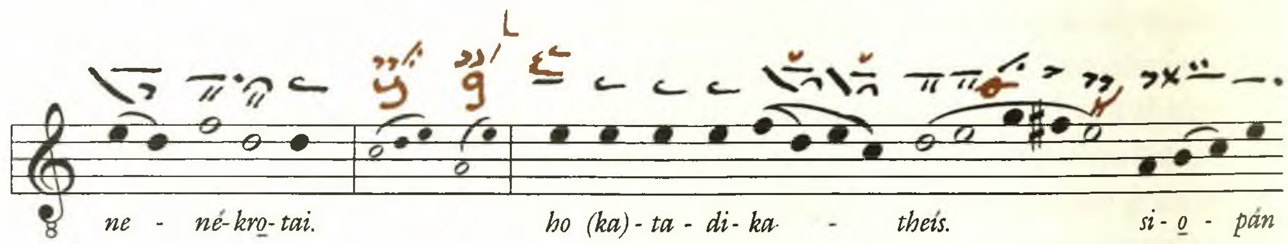
Example 40
(Triple MeSi from MS Vienna suppl. gr. 110 (15th cent.), fol. 313v, from the 'Method of the *Sticherárion*' by Xenos Korones)

68. Modulation signs

In addition to the MeSi, other signs were used to clarify changes of modality in both the transmitted corpus of 'classical' Byzantine melodies and in the new compositions of the Kalophonic style. These signs are the *énarxis* (literally 'beginning') and the *phthoraí* ('spoilers' or 'destroyers').

69. *Énarxis*

The *énarxis*, ⸤ , can be placed above the first neume of a phrase, when it starts a second above the preceding note and introduces a new modality.[195] To show a typical example from *Sticherárion*, the *énarxis* is very frequently set when a first or third mode transposition is brought about after a **d** cadence in pieces beginning in the fourth authentic mode:[196]



Example 41
(*Énarxis*, MMB XI, fol. 136)

In this example, a set of double MeSi helps to define the modality of the passage, which can be interpreted as a shift into first authentic, here defined in the melodic progression of the second phrase between **e** and **a**, instead of the theoretical position of first mode between **a** and **D**. Other typical positions in the *Sticherárion* are changes from a *naná* phrases cadencing on **c**, immediately followed by a fourth mode opening from **d**, and at phrase openings on **b** (clarified through a second mode MeSi) preceded by cadence on **a**.[197]

70. *Phthoraí*

The *Hagiopolites* treatise furnishes a wide definition of *phthoraí*, which apparently includes the common phenomenon of melodic modulations indicated by MeSi.[198] Manouel Chrysaphes (15th cent.) describes the effect of the *phthoraí* signs as temporal modulations from one *échos* into another.[199] The Palaeobyzantine notations knew the signs *phthorá* and *hemíphthora* ('half-spoiler'),[200] and the former is also found in a few thirteenth-century manuscripts of the Middle Byzantine notation,[201] in a figuration similar to that chosen by Ioannes Koukouzeles to furnish an example of the *phthorá* in his didactic song.[202] This *phthorá* sign is typi-

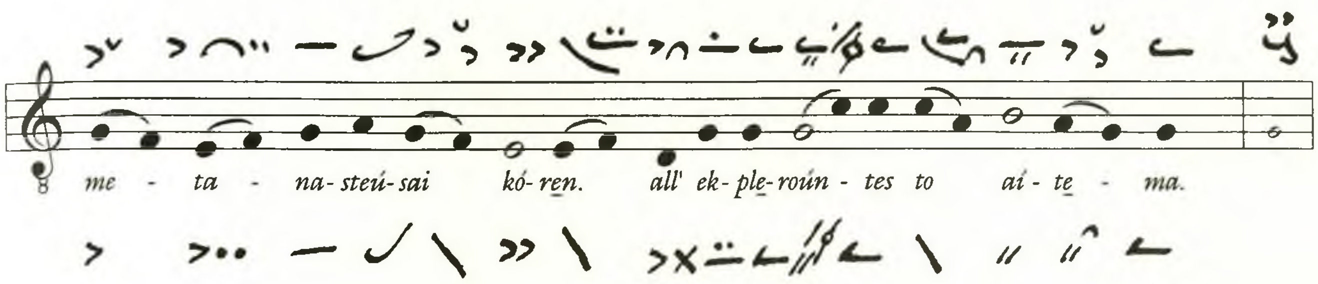
[195] see the description by *Gabriel Hieromonachos*, lines 358-60. "The *énarxis* is placed when we after the completion of a musical phrase (*mélos*) and of the mode (*échos*), place one step(-sign) as the first one and in a way make a new beginning."

[196] In this position the sign corresponds to the *parakletiké* and *méson* signs in the Palaeobyzantine traditions, cf. Troelsgård 1995, 96-7.

[197] Raasted 1987, 28-9 has put forward the hypothesis that the *énarxis* possibly was a sign for chromatic alterations, and that its presence (also called *parakletiké*) in corresponding positions in the Palaeobyzantine manuscripts would support the hypothesis that chromaticism is an old phenomenon. A study of *énarxis*/*parakletiké* in the Palaeobyzantine manuscripts, however, reveals that the sign is used at 'high' position openings in all modes, and that it is therefore unlikely that it was an indication of chromaticism, see Troelsgård 1995.

[198] *Hagiopolites* §34, 4-9: "They were called Phthorai (*i.e. destroyers*) because they begin from their own Echoi, but their endings and cadences are on notes from other Echoi."

cally placed on prolonged **G** followed by **c**, probably indicating a typical melodic element of the *naná, tritos* or *plágios tétartos é̱chos* appearing on the background of another melodic-formulaic context, normally that of the second mode.[203]



Example 42
(*Stiche̱rón "Deúte philomártyres pántes"*, Grottaferrata, E.α.II, fol. 81 (Middle Byz. notation) and MMB X, fol. 52v (Palaeobyzantine Coislin notation))

The later *Papadikaí* regularly include a table of *phthoraí* for many modes, including the *nenanó̱*, and some apparently related signs, namely the *he̱míphōnon* and the *he̱míphthoron*. All these signs have shapes derived from a stylised *phí:*

71. Conspectus of the *phthoraí* (based on MS Vat. Barb. 300 (late 15th cent.), fol. 3r)

1st mode		2nd mode	
3rd mode		4th mode	
1st pl.		2nd pl.	
nenanó̱		4th pl.	
he̱míphōnon		*he̱míphthoron*	

Comparing the diagram with the situation depicted by the example above, it appears that the Palaeobyzantine *phthorá* came in the Middle Byzantine notation to function as *phthorá* of the third mode. In the musical manuscripts, the *phthorá* of the third mode is often found on the pitch **c**, while perhaps the most frequently used *phtorá* is that of *nenanó̱*, normally placed with an interval sign representing the pitch **a**.

The function of the *phthorá* signs seems to be equivalent to that of the MeSi, with the difference that the *phthoraí* can be placed in the middle of a musical phrase. Thus they indicate a change of modality consisting in an import of characteristic melodic progressions from another mode, starting from the position of the *phthorá*, and ending again where another *phthorá* or a MeSi helps to define the modality anew.[204]

Towards the end of the period of Middle Byzantine notation it became more and more usual that the *phthoraí* virtually replaced the traditional MeSi, and the *nenanó̱ phthorá* even became part of the *nenanó̱* MSi at the beginning of melodies.

Like the MeSi, the *phthoraí* might appear both in their 'theoretically' correct position, i.e. corresponding to the first and/or last pitch of the corresponding MSi, and on pitches different from that. In such cases a transposition/modulation has occurred.[205] The following

[199] *Manouel Chrysaphes*, lines 218-24 (own translation): "The *Phthorá* unexpectedly destroys the melody of the *é̱chos* being chanted, and creates for a short time another melody and a partial change of the actual *é̱chos* into another one. Then, when the *phthorá* is dissolved, the first *é̱chos* is sung again according to its own properties, just as before the *phthorá*."
[200] cf. Wolfram 1995.
[201] e.g. in the *Psaltikón* Florence, Ashburnham 64 (=MMB IV), fol. 164v (AD 1289), and the *Stiche̱rárion* Grottaferrata E.α.II (13th cent.), *passim*.
[202] see Alexandru 1996, no. 59.
[203] Tillyard 1938, 89-90 (= MMB Transcripta II) holds that this *phthorá* indicates a chromatic progression until the end of the phrase: **Gc c db cb a^{b}G G**. Opposed to this interpretation, Wolfram 1995, 125-6 suggests that the *phthorá* indicates a diatonic passage against a general chromatic nature of the *deuteros* modes.
[204] *Manouel Chrysaphes*, 305-7. The technical term for annulment or resolution is *'lýsis'*.
[205] Explained in greater detail by Raasted 1966, 44-48.

example shows the *phthorá* of *nenanó* in one of two selected Middle Byzantine manuscripts (E.α.II), the modulation sign being placed at the beginning of a movement from **G** to **D** in the traditional sticheraric formula called *théma haploún*.[206]



Example 43
Grottaferrata, E.α.II, fol. 70v and MMB XI fol. 43r (beginning and ending pitches indicated, but elsewhere without transcription)

In this case, the sign means that the subsequent melodic progression theoretically placed between **a** and **E** has been transposed one step downwards. I shall return to the transcription of this modulation below.

72. Chromaticism

Based on the study of the Byzantine musical treatises and manuscripts, together with an assumed parallel between the modal systems of Byzantine music and of the Gregorian tradition, the founders of MONUMENTA MUSICAE BYZANTINAE were in favour of a strictly diatonic interpretation of medieval Byzantine chant.[207] They saw the 'modern' complexity of scales and intervals as an effect of the contact between Greek singers and their Ottoman overlords and concluded that "it is therefore unsafe to assume that the modern music of the Greek Church contains any body of tradition earlier than the eighteenth century".[208] This position has been questioned in recent decades.[209]

It has already been mentioned above, among other places in the chapter on transcription of Byzantine chant (§§ 12-17), that it is not clear how far back the practice of chromatics, first of all in the deuteros modes (second authentic, second plagal, and *nenanó*), reaches.

For the latest part of the tradition, it is certain that the descriptions of modes and scales by Chrysanthos must be considered valid. According to him, the 'scale' of the second plagal mode is constructed from two disjunct tetrachords, of which either can be chromatic (| semitone | augmented tone | semitone |), or only the lower tetrachord.[210] In a unique anonymous theoretic compilation from the last part of the fifteenth century,[211] chromaticism is explained through such terms as "complete steps" (*teleíai phonaí*), "altered steps" (*ephtharménai phonaí*) and "delicacies of steps" (*leptá ton phonón*), probably indicating various microintervals.[212] It is said that "Often, or rather always, the *phthorá* determines a step (*phoné*) by mixing two steps, as happens in the *nenanó* and many others", and "The *phthorá* is performed only when you sing a half step in descending movement, or rather the third of a step, and one and a half step in ascending movement, like in the *nenanó* mode".[213] Deviating from the main stream of the earlier and contemporary manu-

[206] cf. the occurrence of *théma haploún* with *phthorá* in Kokouzeles' didactic poem, see Alexandru 1996, no. 49.
[207] Strunk, The Tonal System of Byzantine Music, Essays, 3-18.
[208] Tilllyard 1935, 16.
[209] see for example Thodberg 1964 (on accidentals in the *Sticherárion*), Ciobanu 1973, Stathis 1979, Husmann 1981, Amargianakis 1982, Raasted 1987 (on chromaticism). The diatonic interpretation has most strictly been defended by Oliver Strunk 1942 and 1945. Tillyard 1935, 35 accepted "chromatic passages" in Middle Byzantine music, though "never a whole hymn in the chromatic species".
[210] Chrysanthos begins the scale of second plagal on *Pa* (**D**), and that gives the approximate progressions **D E♭ F♯ G – a b♭ c♯ d** or **D E♭ F♯ G – a b c d**, cf. Chrysanthos 1821, 40-42.
[211] The dating of the treatise is based on a reference to a kalophonic piece by Manouel Chrysaphes, the anagrammatismos *O parthéne* (Zannos 1985, § 29) and the palaeographic dating of the earliest manuscript source, Athens, National Library 899.
[212] Zannos 1985, § 18.
[213] Zannos 1985, § 17.
[214] Zannos 1985, § 19.
[215] Akríbeia, 80, is perhaps the earliest occurrence of the term *klímax* ('ladder', 'scale') in a more technical sense (15th-16th c.).
[216] see Hannick 1978, Part 1, '*Die Lehrschriften der klassisch-byzantinischen Musik*'. In the treatises on Byzantine chant, the concepts *triphonía* and *tetraphonía* (meaning 'at a distance of three or four steps' respectively) were used in the treatises to describe tonal phenomena corresponding to conjunct and disjunct tetrachords respectively.

script tradition, this anonymous treatise uses the *phthoraí* almost as accidentals, where the *phthorá* of *nenanó* is a sharp and the *phthorá* of *naná* (or third mode) works as a flat:[214]



Example 44
(Athens 899, fol. 7v, Deuteros and Tritos)

In the earlier musical theory, there are neither explicit indications of diatonicism nor of chromaticism, and the concept of 'scale' is kept very much in the background.[215] It is worth noticing that the word 'tetrachord' is used only in those Byzantine treatises dealing with ancient music theory.[216] Instead, the Byzantine ecclesiastical chant treatises speak of melody, *mélos,* as constituting the characteristic (*idéa*) of an *échos*.[217] Our concern with the modern concept 'scale structure' must therefore be enlightened by other types of evidence: by the occurrence of repeated melodic material and the use of MeSi in the chant manuscripts themselves. Furthermore, some exercises in the *Papadikaí*, the so-called *parallagaí*, present the intonation melodies explained through the addition of a MeSi to every pitch.[218] In such exercises, the **G** step of the *deúteros* is explained through the signature of fourth plagal, the same sign as used for this step in the other modes. This phenomenon seems to strengthen the hypothesis of a diatonic state of the basic system and the starting pitches, also in the *deúteros* modes.[219] However, chromatic progressions, understood as melodic 'alterations', were probably already in the middle ages a characteristic, or at least a possibility, in the *plágios deúteros* cadence **aG# FE**, which is common to all *deúteros* modes in the *Sticherárion/Heirmológion,*[220] and in the *nenanó* MSi/MeSi **EFG#a**.[221] Like the hypothesis of an underlying diatonic 'basic theoretical system', the possibility of a chromatic shading of some melodic elements in the *deúteros* modes must be based on *indicia*; there is, so far, no definite proof to be found in the manuscripts and the theoretical texts. If chromatic progressions were commonplace in some of the characteristic formulas associated with the deuteros modes, we can speak of an organic evolution of the modality over the centuries rather than one crucial break in the tradition.[222] At the same time this view is fully compatible with the notion of *échos* as a collection of melodic progressions, in which the steps under certain conditions could deviate from what we define as the 'basic scale'.[223]

If we now return to the transcription of the example presented above, it seems that we have at least three possibilites of interpreting the *phthorá* of the *nenanó*:

a) It can be assumed that the sign is an addition of the fourteenth century, at the earliest, and thus has no consequences to the interpretation of the formula as it was denoted in the earlier Middle Byzantine manuscripts without *phthoraí*, and before these in the Palaeo-byzantine manuscripts. In that case, the *théma haploún* must be transcribed with no alterations of the steps of the 'basic theoretical

[217] *Mélos* ('melody'), *idéa* ('form', 'appearance'), *chróma* ('colour'), and *phýsis* ('nature') are the words most frequently used to describe the qualities of all *échoi* (e.g. *Gabriel Hieromonachos*, lines 559 sqq, and *Manouel Chrysaphes*, lines 218-224).

[218] see Raasted 1966, 49-51.

[219] Likewise strengthening this hypothesis, MeSi of the fourth and fourth plagal modes at times replace *deúteros* MeSi on the **G** step. These situations could, however, be interpreted as modulations, though only in a part of the tradition. Assuming that the *deúteros* modes were fully chromatic, the relatively frequent *plágios deúteros apéchema* MSi..**EF** would prepare melodies opening with a tritone **D G#** leap. Tritone leaps do occur in Byzantine chant, but it would appear contradictory to the whole system of MSi+*échéma*+opening phrase in the other modes to start a melody with an open tritone leap. In addition, the same *apéchema* (MSi..**EF** before openings **D G**...) is a feature shared by the second and fourth plagal modes, of which the latter was most certainly diatonic.

[220] The cadence has different rhythmical forms, but a melodic **a-E** progression is typical also of *plágios deúteros* in the Alleluiaria of the *Psaltikón*, see Thodberg 1966, 216-22.

[221] The Byzantine treatises explain especially *nenanó* as very distinct from the other modes. Manouel Chrysaphes, Gabriel Hieromonachos, and some verses on the eight modes ascribed to John of Damascus, as for example transmitted in the *Heirmológion* E.γ.II (=MMB III), say that the *deúteros* modes are, in opposition to the other modes, characterised by 'sweetness'.

[222] The theory of Turkish/Persian influence as a reason for 'introduction' of chromaticism in Byzantine chant seems to be too simple. It appears that Byzantine chant shared practices of melodic alteration already before the Ottoman domination was established, and it seems an unlikely assumption that chromatic practices should have spread from already conquered areas into the rest of the Empire. For example, the tendency to modulate into *nenanó* (marked with a *phthorá*) on special words of destruction and evil is seen already from around 1300, and it appears unlikely that this modulation went from one diatonic *échos* into another diatonic one, only later to be interpreted chromatically. It is, however, first at a much later stage that Postbyzantine musical theory explicitly compares the *makam* of Arabo-Persian music with *échos*, the earliest case probably being the treatise of *Chalátzoglou* 1728.

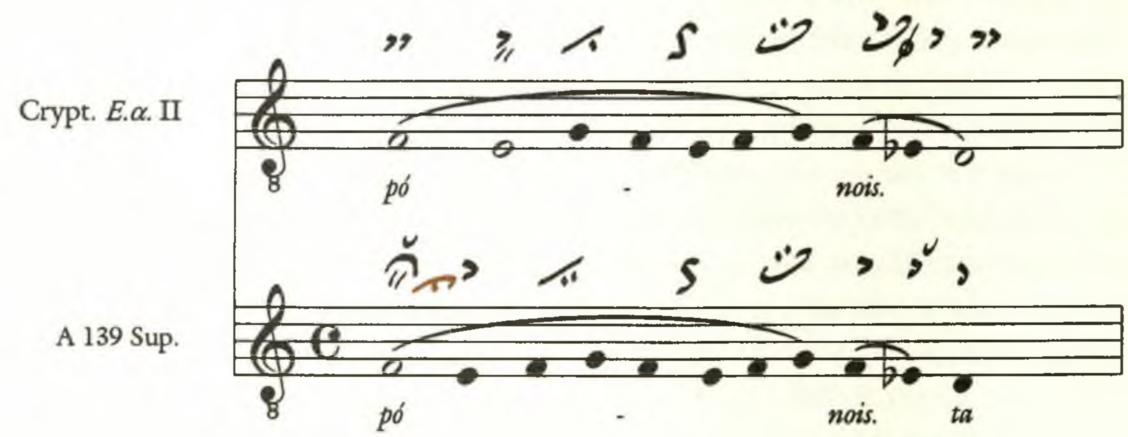
[223] Apart from chromatic shading, other types of melodic adjustment may also have played an important role (cf. Wellesz 1957 (= MMB, Transcripta IX), p. lxv). Such alterations might not have been by exactly a semitone, but were possibly performed also with microintervals, as it is explicitly recorded in the New Method, where the phenomenon 'melodic attraction', *hélxis*, is treated (cf. Panagiotopoulos 1947, 127, and Karas 1982, I 224-8).

system'. This produces an ending in **D**, prepared by a melodic progression close to a cadence of the *plágios prō̲tos*. Under these conditions, the *théma haploún* may be transcribed as follows:



Example 45

b) the *nenanṓ phthorá* is inserted in some manuscripts of the fourteenth century to clarify a modulation into the *nenanō̲* mode which was always there, at least so far back we can follow the Byzantine notations. Assuming that the *théma haploún* figure always modulated into *nenanō̲*, and that *nenanō̲* was a diatonic mode with **a** and **E** as characteristic pitches, the movement **aGFE** must be lowered a tone to **GFE**^{b}**D**, in order to preserve its modal/melodic properties:



Example 46

c) Finally, one can assume that chromatic progression in the tetrachord **E-a** was part of the melodic repertory in pieces ascribed to *nenanō̲*/second plagal, and in that case all the properties of the previous case (b) would apply, except that the step **F** should be raised to **F**$^{\#}$, in order to match untransposed **G**$^{\#}$:[224]



Example 47

These three interpretations should not be seen as profound differences in the interpretation of Byzantine chant corresponding to the opinionated convictions of a strict diatonicism or chromaticism. Instead, the

above examples should be considered as approximate descriptions of three different possible realisations of a conventional downwards, step-wise melodic movement ending on **D**. And what appears to be a shift between two different scale structures should rather be described as melodic adjustments or melodic 'alterations'. Such finesse of vocal performance would not be unlikely in a principally monodic chant practice such as the Byzantine one. Therefore, when we meet the *nenanō phthorai* in manuscripts from the fourteenth century onwards, they seem to be a means of making explicit the melodic alterations into chromatic progressions characteristic of the *nenanō échos*.

To sum up, Tillyard's acceptance of chromatic passages on the background of a basic diatonic system is in my view still the interpretation that pays the highest degree of respect to the data contained in medieval musical manuscripts and treatises.[225] But instead of regarding chromaticism as a fifteenth-century development under oriental influence, it is perhaps more reasonable to see the evolving explication of melodic/tonal adjustments and chromatic passages in connection with other additions to the sign repertory of the Middle Byzantine notation around the year 1300. Consequently, we must suppose that such phenomena were not innovations but reflected older practices. Methodologically, it would also be problematic to distinguish between 'interior' and 'exterior' reasons for changes and developments in a historical chant tradition.[226] Due to the character of the Palaeobyzantine melodic notations, it is unfortunately impossible to tell with certainty to what extent practices of tonal alteration and/or chromaticism were at home in the chant tradition right from the beginnings of Byzantine musical notation.

Later on, as a parallel to other developments of the chant tradition during the Postbyzantine centuries, and not least under thr influence of the nineteenth-century revival of ancient Greek musical theory, chromatic melodic elements were set apart from other practices of melodic alteration in music theory and came to be described as constituting an independent chromatic scale system.[227] A warning of this increasing consciousness of the physical constitution of 'scales' is perhaps already seen in the emergence in the musical manuscripts of a specifically diatonic variant of the *deúteros* mode on **E** from the seventeenth century onwards, the so-called '*légetos*' mode.[228] The New Method operates with a concept called '*epeísakton mélos*', where a melody which is traditionally ascribed to e.g. the first mode, is 'driven' over in the second mode with its dominating chromatic characteristics.[229] This might be another sign of a slowly increasing predilection towards chromaticism in the Postbyzantine chant practice.

As a consequence of the above, it seems justified to suggest accidentals in transcription of supposed chromatic progressions of the *deúteros* modes, and even more so in transcription of manuscripts from the thirteenth and fourteenth century onwards, where the use of the *nenanō phthorá* keeps the transcriber on safer ground. From the 17th century onwards, with the introduction of the diatonic variant of the second mode, the *légetos,* it seems that the *deúteros* modes were derived from a basically chromatic scale, and, opposite to the earlier tradition, it now became the diatonic variant that was set apart as the more unusual one.

[224] This transcription was suggested by Tillyard 1938, 38 (= MMB, Transcripta II).
[225] Tillyard 1935, 35-6.
[226] Widdess 1992, 219.
[227] Still, it must be remembered that the ancient music literature was still current in Byzantium (cf. Richter 1998), that some points of connection are evident already in the Byzantine epoch, and that a certain influence is also seen in some Postbyzantine treatises (cf. Hannick 1978, Zannos 1985, 7, and Troelsgård 1988).
[228] Husmann 1981, 192. A *légeto(s)* mode is mentioned already in 15th-cent. treatises, as a *mésos* of the fourth mode, being equalled with *barýs* (cf. e.g. Alygizakis 1985, 145, 234, and 237).
[229] see e.g. Panagiotopoulos 1947, 132-3.

VII The Byzantine chant styles

73. Simple Psalmody

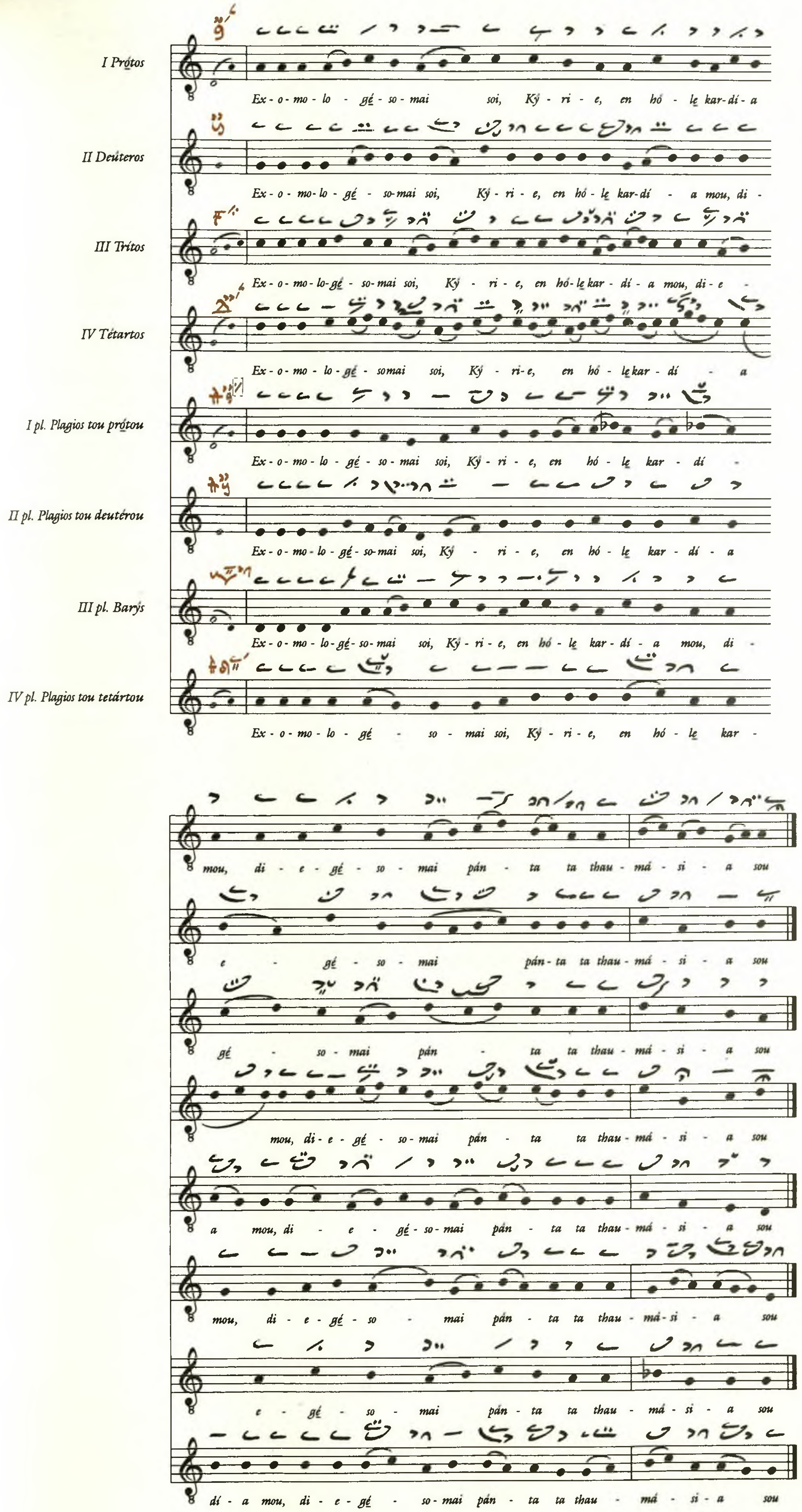
The chanting of simple psalmody was exclusively orally transmitted until pieces of written evidence suddenly appear in a few manuscripts from the end of the thirteenth century[230] and in the *Akolouthíai* manuscripts from the fourteenth century onwards. The simplest psalmodic style is found in settings of Ps. 141.8 (from *Kýrie ekékraxa,* evening office), Ps. 50.3 (*ho Pentēkostos*, morning office), Ps. 148.1 (*hoi Aínoi,* morning office), Ps. 9.2 with doxologies (at the *Stichologíai*, morning office), two sets of *prokeímena* (one for Sunday morning and one Ordinary), first verses of the Canticles ('Biblical odes', morning office), and of the Beatitudes (Mat 5.3, Divine Liturgy). Strunk has shown that the simple psalmodic cadence of these settings were quoted in the openings of the *stichērá* for the 'Gradual psalms' (*hoi Anabathmoí*, Ps. 119-30), which are located in the *Oktṓēchos* part of the *Stichērárion*.[231] This confirms the tradition at least back to the earliest copies of the *Stichērárion* in the tenth century, but most likely the syllabic psalm-tones go even further back, as the *Anabathmoí* traditionally are ascribed to St Theodore of the Stoudios Monastery, who flourished *c.* 800. Because of some irregularities in the choice of recitation notes in the plagal modes, the psalm-tones might reflect an even older compromise between archaic Christian recitation patterns and the system of the *Oktṓēchos.*

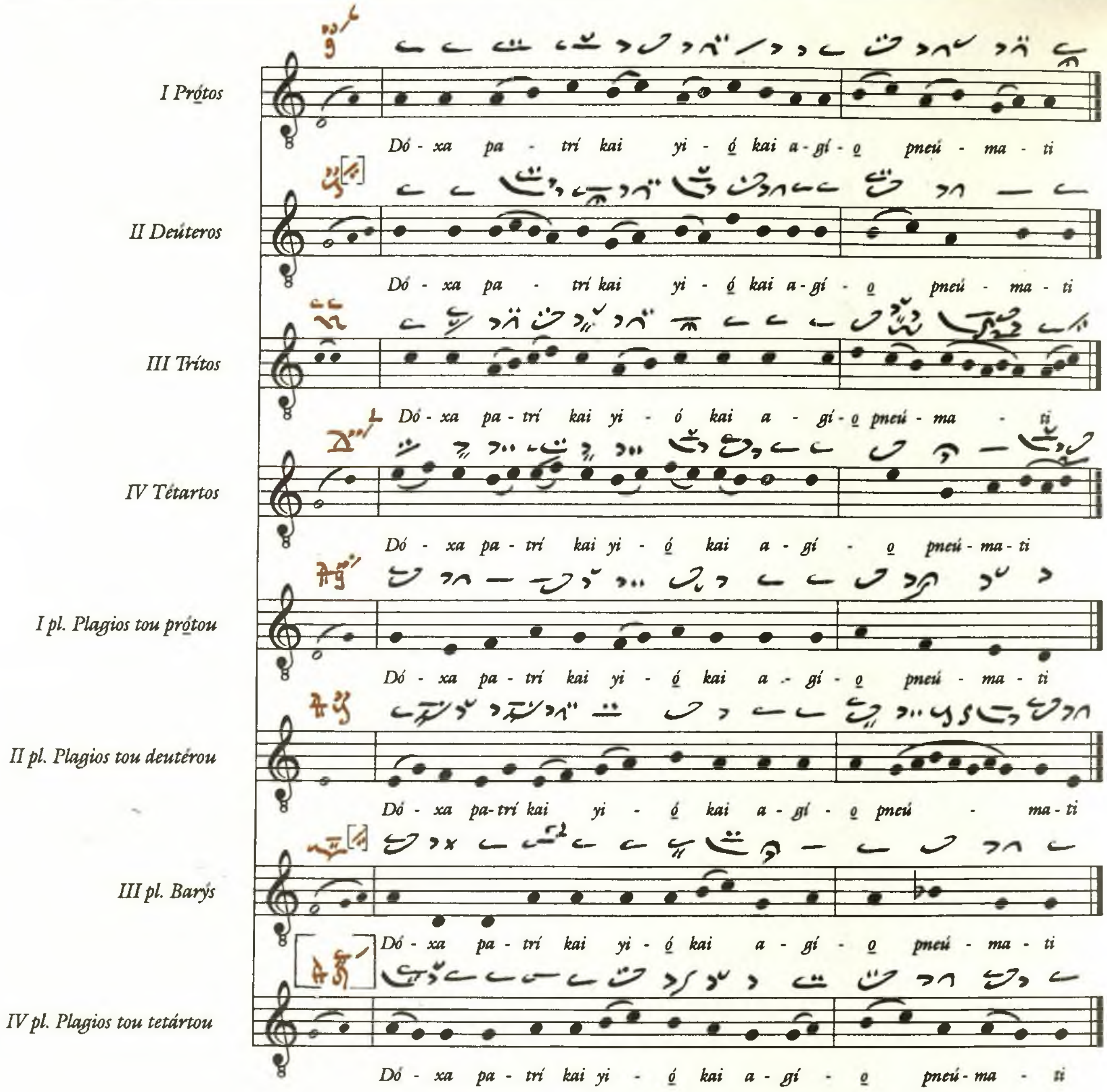
In the simple psalm-tones, both opening and recitation are governed by the placement of text accents. On the contrary, the psalmodic cadence is of the 'cursive' type, invariably applied to the last four syllables of verse and doxology and paying no regard to the accentuation of the words. No complete *Akolouthíai* manuscript has so far been published in the MMB series.[232] The following example shows Ps. 9.2 plus the doxology through the eight modes.

[230] e.g. MSS Paris gr. 261 and Grottaferrata E.α.II, Γ.γ.II, Γ.γ.IV, and Γ.γ.VII

[231] Strunk 1960.

[232] A facsimile edition is being prepared. Appendix, Plates 18, 19, and 22 show examples of this manuscript type.


I Prōtos
Ex - o - mo - lo - gē - so - mai soi, Ký - ri - e, en hó - lē kar - dí - a
II Deúteros
Ex - o - mo - lo - gē - so-mai soi, Ký - ri - e, en hó - lē kar - dí - a mou, di -
III Trítos
Ex - o - mo - lo - gē - so - mai soi, Ký - ri - e, en hó - lē kar - dí - a mou, di - e -
IV Tétartos
Ex - o - mo - lo - gē - somai soi, Ký - ri - e, en hó - lē kar - dí - a
I pl. Plagios tou prōtou
Ex - o - mo - lo - gē - so - mai soi, Ký - ri - e, en hó - lē kar - dí -
II pl. Plagios tou deutérou
Ex - o - mo - lo - gē - so-mai soi, Ký - ri - e, en hó - lē kar - dí - a
III pl. Barýs
Ex - o - mo - lo - gē - so - mai soi, Ký - ri - e, en hó - lē kar - dí - a mou, di -
IV pl. Plagios tou tetártou
Ex - o - mo - lo - gē - so - mai soi, Ký - ri - e, en hó - lē kar -
mou, di - e - gē - so - mai pán - ta ta thau - má - si - a sou
e - gē - so - mai pán - ta ta thau - má - si - a sou
gē - so - mai pán - ta ta thau - má - si - a sou
mou, di - e - gē - so - mai pán - ta ta thau - má - si - a sou
a mou, di - e - gē - so - mai pán - ta ta thau - má - si - a sou
mou, di - e - gē - so - mai pán - ta ta thau - má - si - a sou
e - gē - so - mai pán - ta ta thau - má - si - a sou
dí - a mou, di - e - gē - so - mai pán - ta ta thau - má - si - a sou

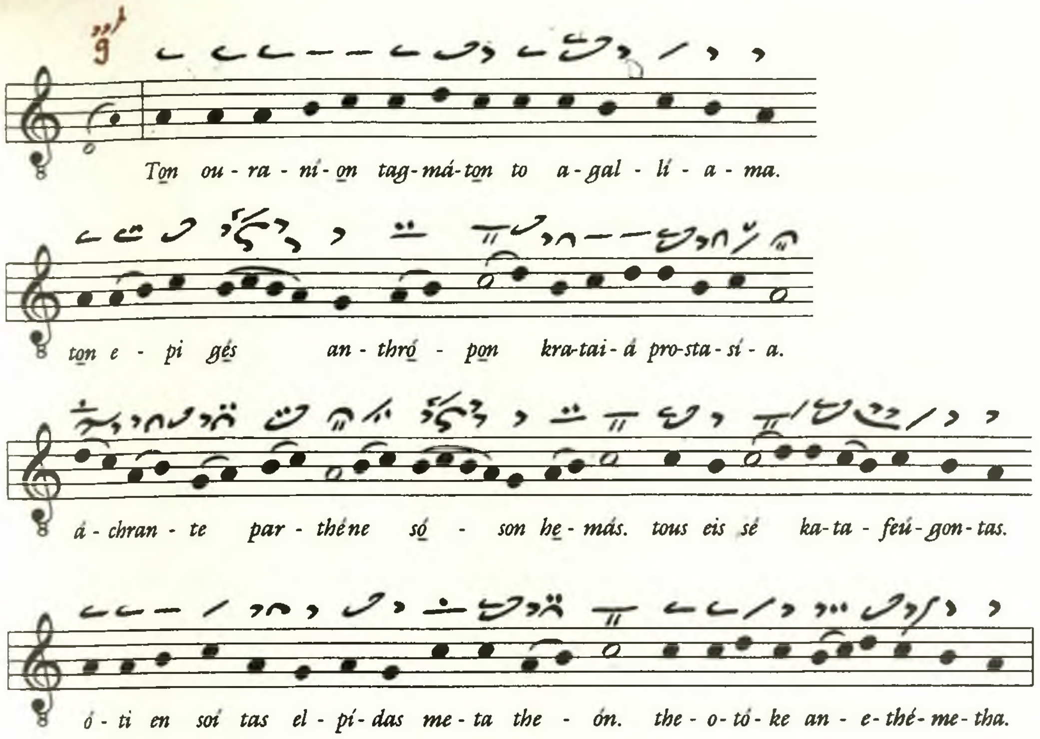


Example 48
(Byzantine psalm-tones, MS Athens 2458, AD 1336, fol. 65)

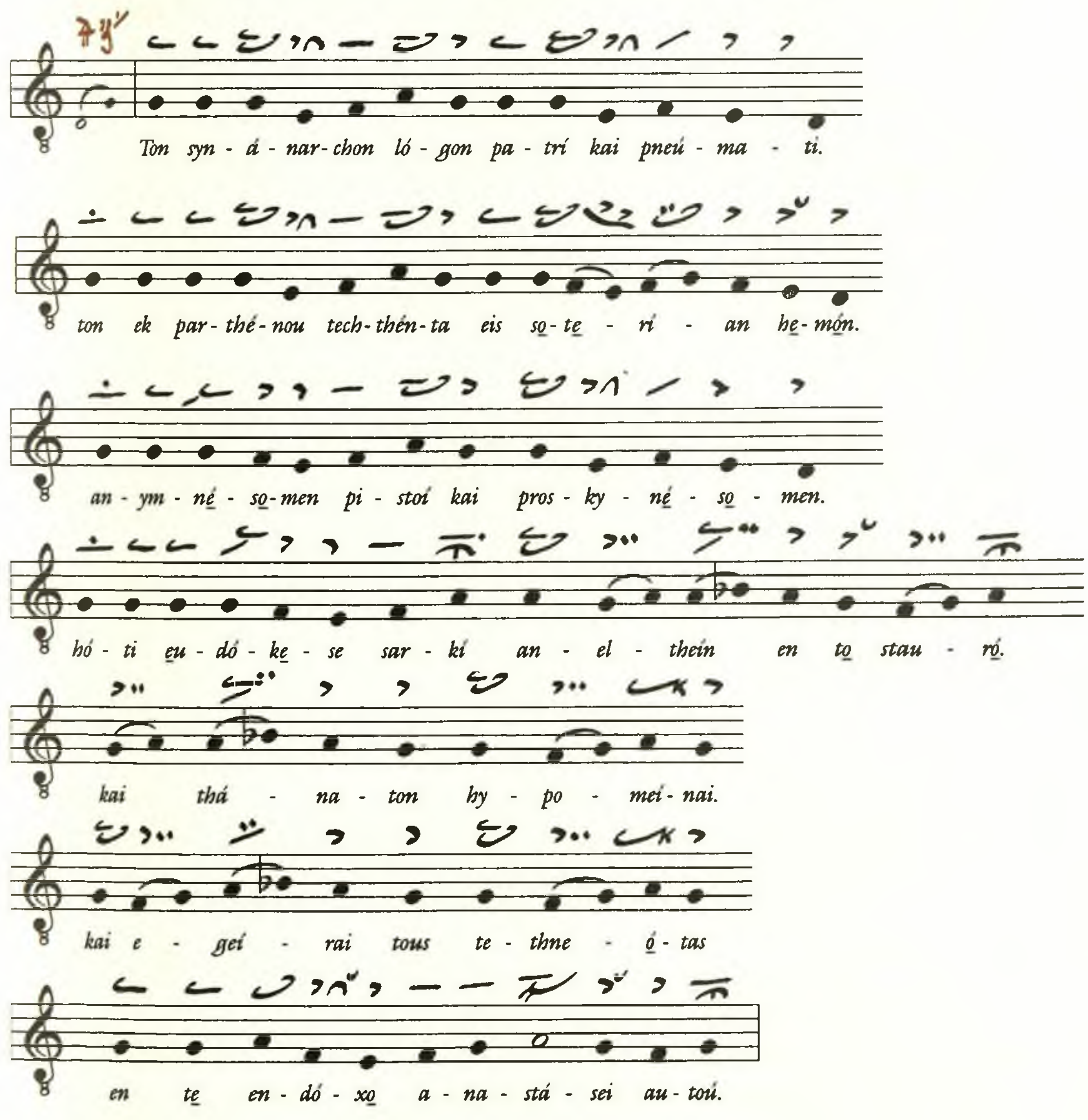
74. *Autómelon/Proshómoion* singing

While the *Heirmológion* (§ 75) by nature is a collection of model melodies (*heirmoí*), the classical *Sticherárion* contains only few pieces to be used as models (*autómela*)[233] for the hundreds of *contrafacta* (*proshómoia*) required in Byzantine services. The rest of the repertory of model melodies (*autómela*) was probably administered mainly by memory alone. However, three cycles of *autómela* – more elaborate in style than simple psalmody, but less than the *Sticherárion* and *Heirmológion* – are found in a few manuscripts from the thirteenth century onwards. These are the so-called *kathísmata* (also called *tropária* or *apolytíkia*) *autómela*, the *sticherá autómela*, and the *exaposteilária autómela*.[234]

[233] see Husmann 1972 and Schidlovsky 1983.
[234] *Exaposteilárion*, a type of *tropárion* for the morning office, sung after the *Kanōn*.



Example 49
(*Sticherón autómelon "Ton ouranion tagmáton"*, mode 1, MS Athos, Vatopediou 1493 (14th cent.), fol. 185v)

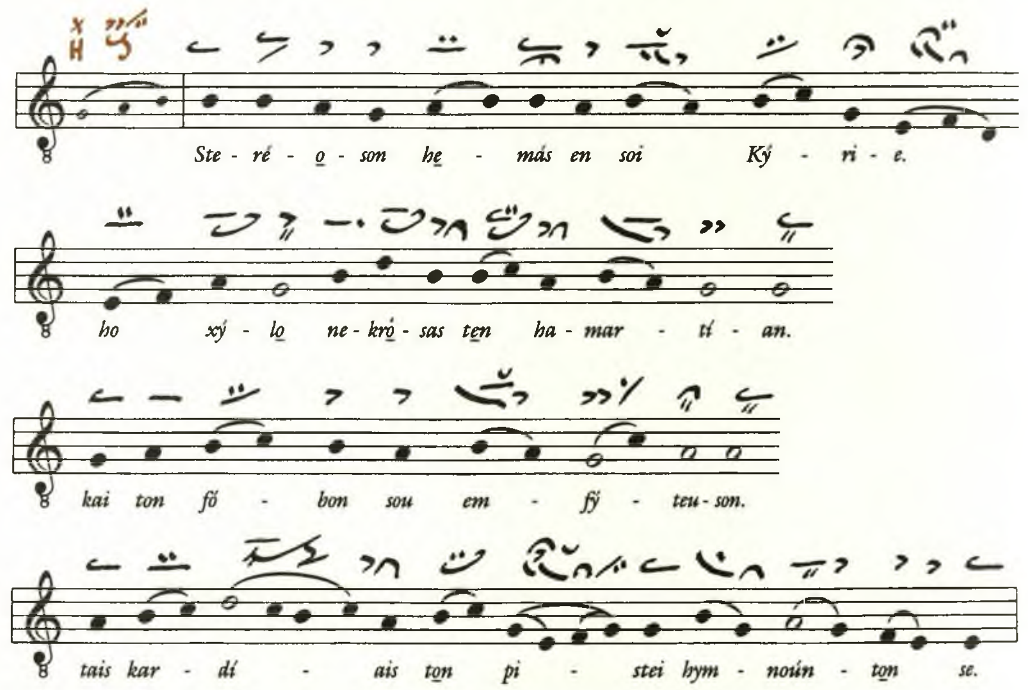


Example 50
(*Káthisma autómelon, "Ton synánarchon lógon"*, first plagal mode, MS Athos, Vatopediou 1493, fol. 187v)

75. The *Heirmológion*

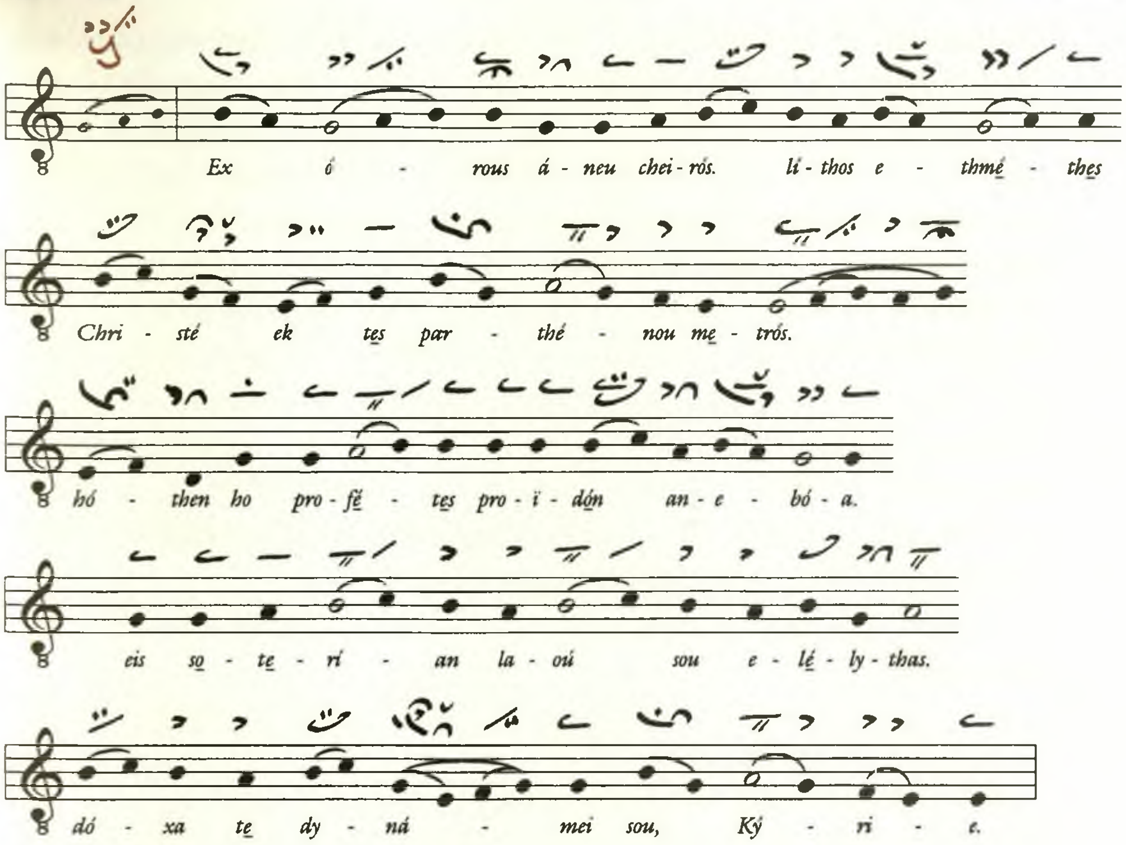
The *Heirmológion* is a collection of model melodies (*heirmoí*) to be used for the *tropária* of the *kanón*,[235] and is together with the *Sticherárion* the earliest chant collection that was furnished with notation. This is also the reason why the repertory was transcribed into the Middle Byzantine notation at an early stage (cf. § 15). The style of the melodies can be described as syllabic-neumatic, and resembles closely that of the *Sticherárion*, although the *heirmoí* are normally somewhat shorter than the *sticherá*.[236] MMB II (Athos Iberon 470) is an early *Heirmológion* in Middle Byzantine notation (probably mid-twelfth century), while MMB III (Grottaferrata, E.γ.II, see App., pl. 11) is a fine copy from the year 1281. MMB Vb is a fragment of an early Slavic 'translation' of the Palaeobyzantine *Heirmológion*, and MMB VIII (Jerusalem, Saba 83) is a Palaeobyzantine *Heirmológion* (archaic Coislin notation), in which the notation has later been partly 'updated' to comply with the diastematic system of the Middle Byzantine notation.

The following examples show *heirmoí* of the second and fourth modes:

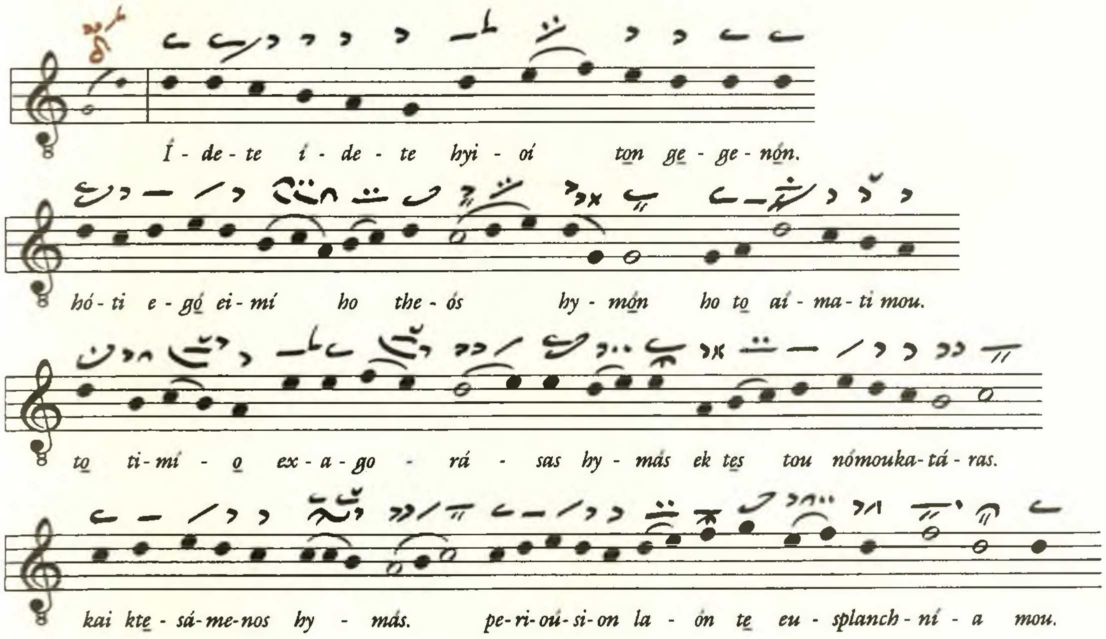


[235] The *kanón* is an extensive chant complex based on the psalmodic recitation of the nine Biblical odes at the morning office, Órthros (or the all-night office, Pannychís). Between the last verses and the doxology of each ode there was normally intercalated a set of strophes, tropária, all following the same model melody, namely the heirmós. The texts of the tropária are found in the liturgical collections Menaíon (fixed calendar), Triódion (Lent, a reduced number of odes are sung) and Pentekostárion (the Easter season).

[236] A general introduction to the genre is presented by Velimirovic 1973 and transcriptions of pieces in first and first pl. modes are published in MMB, Transcripta VI,1. Musical analyses have been published by v. Biezen 1968, v. Busch 1971, Schmidt 1979, and Doda 1995. The less uniform tradition of the Late-Byzantine Heirmológia seems to share many features with the style of the likewise orally administered Autómela-Prosómoia singing, see above § 74.



Example 51a-b
(*Heirmoí "Steréo̱son he̱más"* and *"Ex órous aneú cheirós"* in second mode, Grottaferrata, E.γ.II (13th cent.), fol. 38v)



Example 52
(*Heirmos "Ídete, ídete, hyioí to̱n ge̱genó̱n"* in fourth mode, Grottaferrata, E.γ. II, fol. 114r, cf. Appendix, Plate 11)

76. The *Stiche̱rárion*

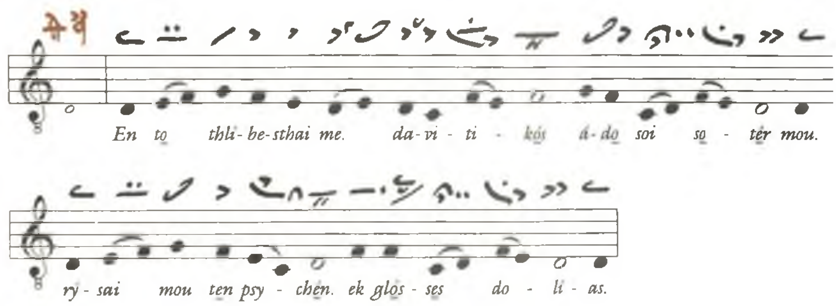
The performance of psalmody with *stiche̱rá* in the Byzantine office is well described in medieval sources. Depending on the degree of the feast to celebrate, four, six or eight *stiche̱rá* were intercalated between the two parts of the doxology and the last psalm-verses. The *Stiche̱rárion* contains only the *stiche̱rá idiómela*, i.e. melodies that were used in principle only once a year, at the feast of a specific saint or in connection with one of the higher feasts.[237] The style is generally syllabic-neumatic and it shares a great deal of the formulaic material with the *Heirmológion*, especially in the shorter pieces, but also a few melismatic passages

[237] A little before AD 1050 a "Standard Abridged Version" of the *Stiche̱rárion* was promulgated (Strunk 1955 and *SAV*), which continued in the Middle Byzantine *Stiche̱rária* with relatively few variations.

are seen in the longer ones.[238] This stylistic differentiation makes the collection appear less homogeneous than the 'classical' *Heirmològion*.

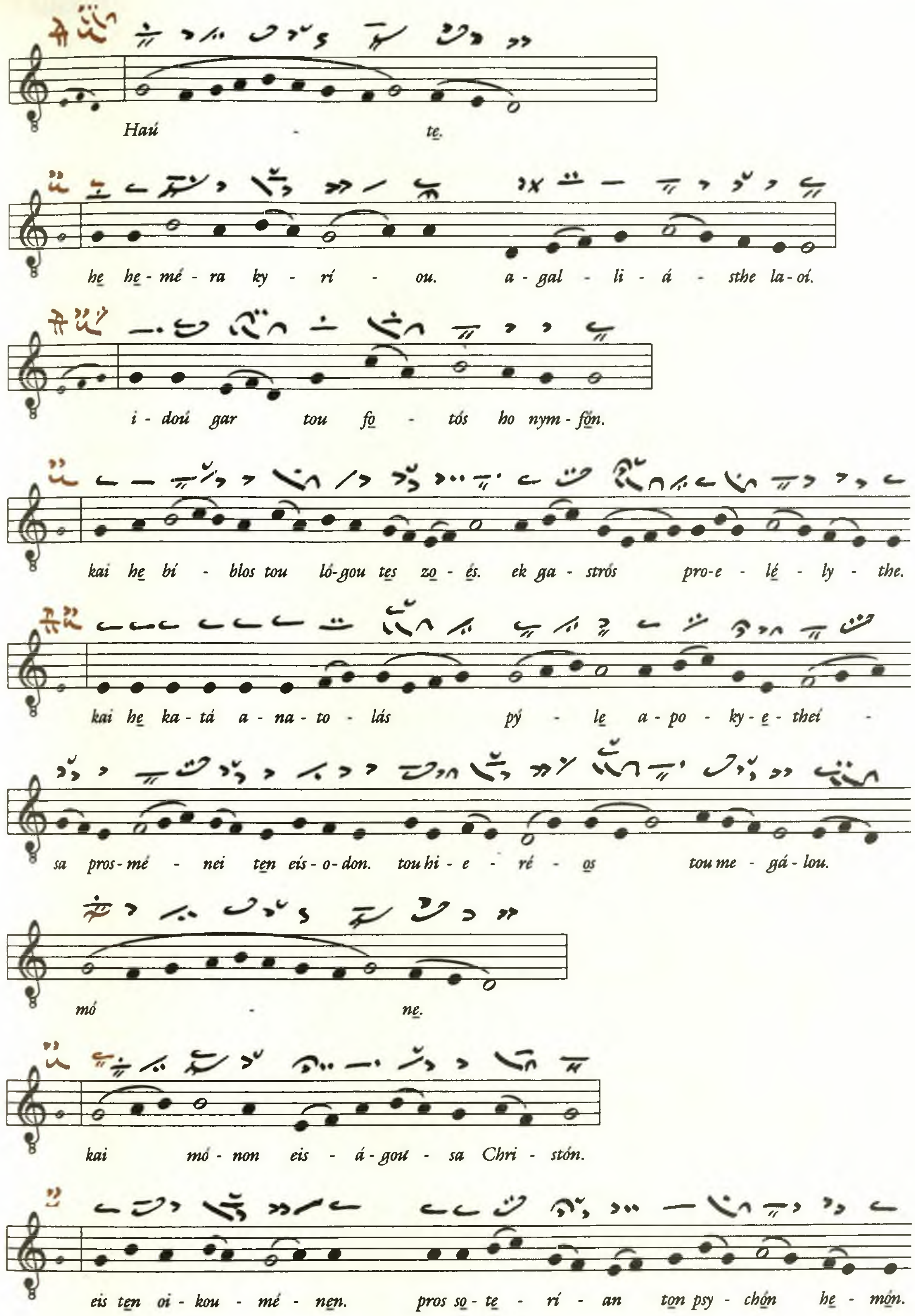
MMB I (Vienna, Theol. gr. 181, see App., Plate 5) is an early thirteenth-century *Sticheràrion* in Middle Byzantine notation, MMB Va is a fragment of a Slavic 'translation' of the Palaeobyzantine *Sticheràrion*, MMB VII contains selections from a variety of Palaeobyzantine *Sticherària*, MMB IX (Athos, Vatopediou 1488) depicts an interesting *Sticheràrion* with parts written in the Chartres as well as in the Coislin varieties of Palaeobyzantine notations, MMB X (Vienna, Theol. gr. 136, see Example 11b) is a complete reproduction of the *Sticheràrion* in the developed Coislin notation, and finally, MMB XI (Milan, Ambros. gr. 139 Sup., see App., Plate 15) is a fine copy of a fourteenth-century *Sticheràrion,* written in a Middle Byzantine notation.

The following examples show a number of *sticherà* in different 'substyles':



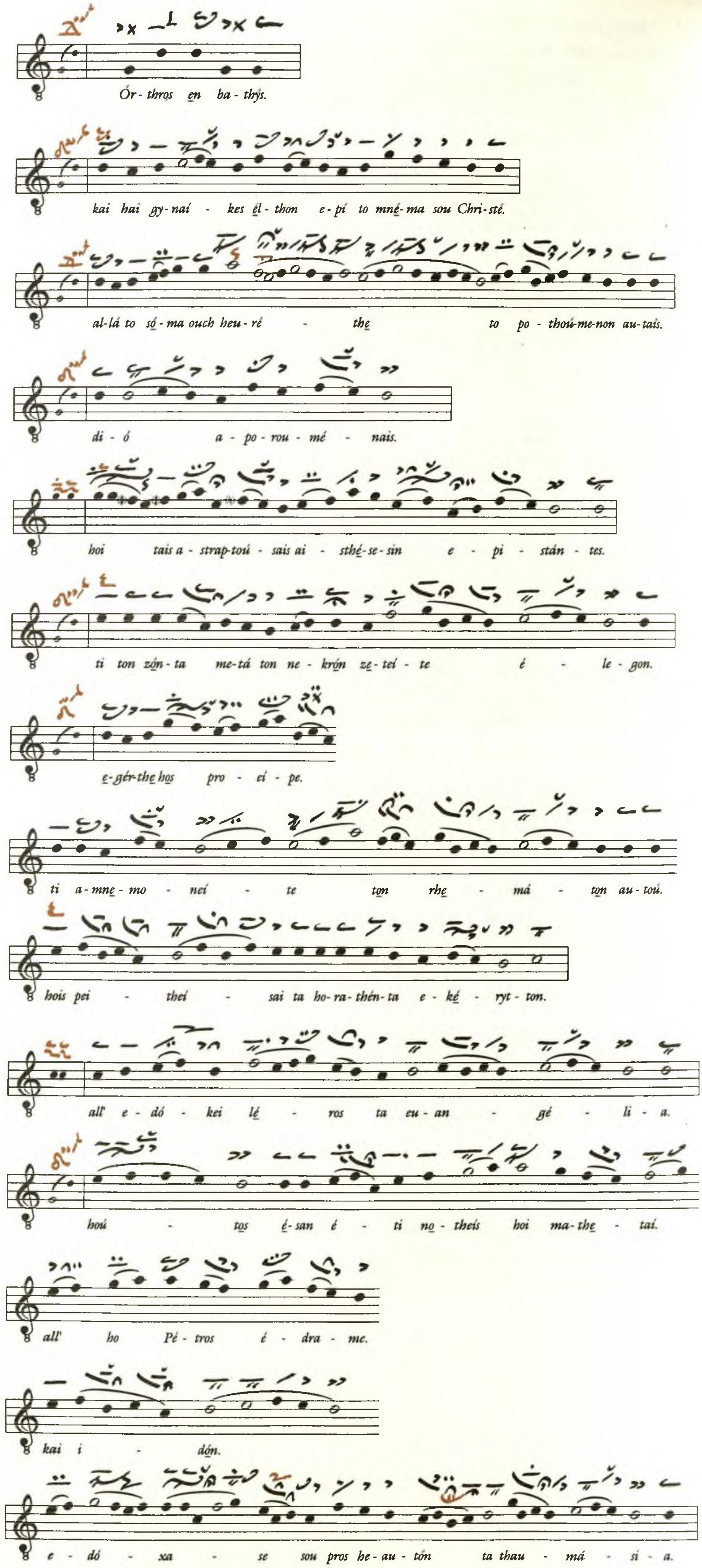
Example 53
(*Stichercòn "En to thlíbesthai me davitikos"*, Milano, Ambr. gr. 139 sup., fol. 287r, first plagal mode – the simplest melodic style, from the *Oktoechos* part of the *Sticheràrion*)

[238] Raasted 1958 describes the syntactico-musical properties of the *stichera*, while Amargianakis 1977 presents a full formulaic analysis of *stichera* of the *deùteros* modes.



Example 54
(*Sticherón "Haúte he hemera"*, Milano, Ambr. gr. 139 sup., fol. 8v, second plagal mode, cf. Appendix, Plate 5 – moderately elaborated style, festive *sticherón* for the Nativity of the *Theotókos*)

Example 55


Ór - thros en ba - thýs.
kai hai gy - naí - kes él - thon e - pí to mné - ma sou Chri - sté.
al - lá to só - ma ouch heu - ré - the to po - thoú - me - non au - taís.
di - ó a - po - rou - mé - nais.
hoi tais a - strap - toú - sais ai - sthé - se - sin e - pi - stán - tes.
ti ton zón - ta me - tá ton ne - krón ze - teí - te é - le - gon.
e - gér - the hos pro - eí - pe.
ti a - mne - mo - neí - te ton rhe - má - ton au - toú.
hois pei - theí - sai ta ho - ra - thén - ta e - ké - ryt - ton.
all' e - dó - kei lé - ros ta eu - an - gé - li - a.
hoú - tos é - san é - ti no - theís hoi ma - the - taí.
all' ho Pé - tros é - dra - me.
kai i - dón.
e - dó - xa - se sou pros he - au - tón ta thau - má - si - a.

Example 55
(*Stich**e**rón "Órthros **e**n bathýs"* Milan, Ambr. gr. 139 sup., fol. 299r, fourth mode, cf. App., Plates 3 and 15 – elaborated style, the fourth of a set of eleven *Stich**e**rá He**o**thiná* for the Sunday morning office)

77. The *Psaltikón*

The *Psaltikón* contains the soloist's chants, a chant collection that has its origins in the cathedral rite of Constantinople.[239] As the important collection of *kontákia* for the church year belongs to this collection, it is often given the alternative name *Kontakárion.* The melodies are of a formulaic character and rather melismatic in comparison with the styles treated above, though very few of the melodic formulae found in this repertory recur among the melismas of the *Stich**e**rárion.* Specific uses of the medial signatures indicate that transposition and modulation are frequent in the *Psaltikón*, and there are considerable stylistic differences between the various sub-genres included in the collection. Only relatively few copies of the type have been preserved, most of them from South Italy. The melodic tradition divides into the 'short *Psaltikón*' and the slightly more embellished 'long *Psaltikón*', both of which styles regularly use the obscure 'double-gamma endings',[240] that often take the melody to a secondary final note. Major parts of the repertory were absorbed by the so-called *Akolouthíai* manuscripts from the fourteenth century onwards.

MMB VI (Moscow, Historical Museum, the *Uspenskij Kondakar'*, AD 1207) is an old Slavic 'translation' from parts of the otherwise lost Palaeobyzantine *Psaltikón* and *Asmatikón*,[241] while MMB IV (Florence, Ashburnham 64) is a Middle Byzantine *Psaltikón* from 1289. The following examples present different chant types belonging to the *Psaltikón*:



Example 56
(*"All**e**loúia"* and *all**e**louiárion* (Alleluia verse) in 1st pl. mode *"Euphránth**e**te díkaioi"* (Ps. 96.12) in the 'short *Psaltikón* style', Patmos 221, fol. 44, = Appendix, Plate 2. Cf. plate 13, that renders the same pieces in a more ornamented style)

239 For an introduction to the *Psaltikón* genres, the manuscript tradition, and transcriptions, see Floros 1960 (*kontákia*), Thodberg 1966 (*all**e**louiária*), Hinze 1973 (*prokeimena*), and Harris 1992.

240 The last vowel is prolonged by the insertion twice of a double *gámma*, representing the sound 'ng'. The exact meaning and function of this practice is unknown, though Levy's suggestion as to a melodic transition to repetition or *allelouia*-refrain is appealing (Levy 1963, 134). Modulation seems to be at hand in the double-gamma-ending of Ex. 56.

241 The Palaeobyzantine tradition of parts of the *Asmatikón* might be studied through the upper row of notation in the unique MS *Kastoriá* 8, see Floros 1970, II, 265-72. This manuscript enables comparison with the Palaeoslavic reception (in the Old Russian "*Kondakar*") of the early Byzantine Asmatikón, see Myers 1998 and Doneda 1999.



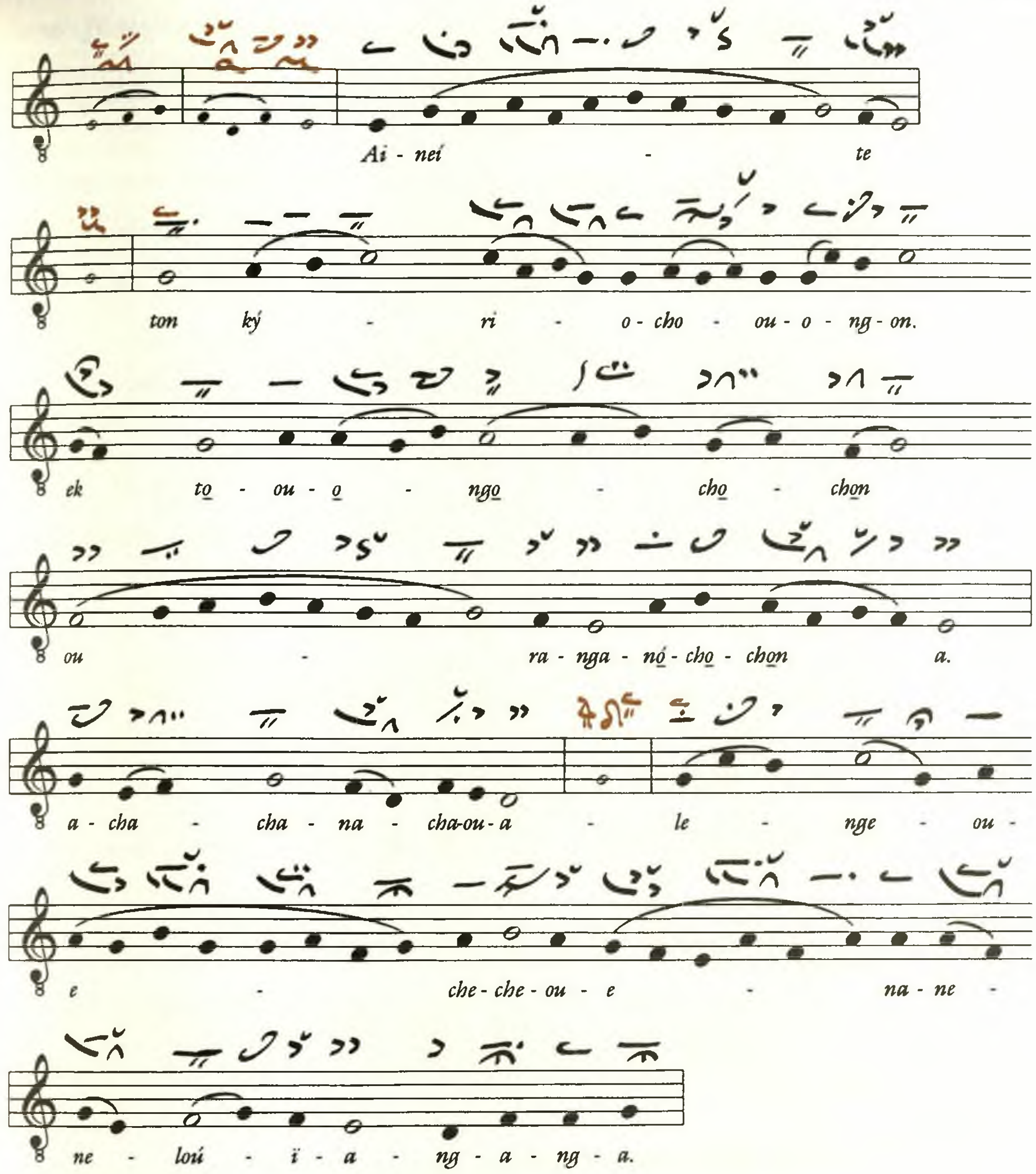
Example 57
(Beginning of *prokeímenon "Tis Theós mégas"* (Ps. 76.14ᵇ.11ᵃ) for Easter and Christmas, Vat. gr. 345, fol. 13v, *barýs* mode)

78. The *Asmatikón*

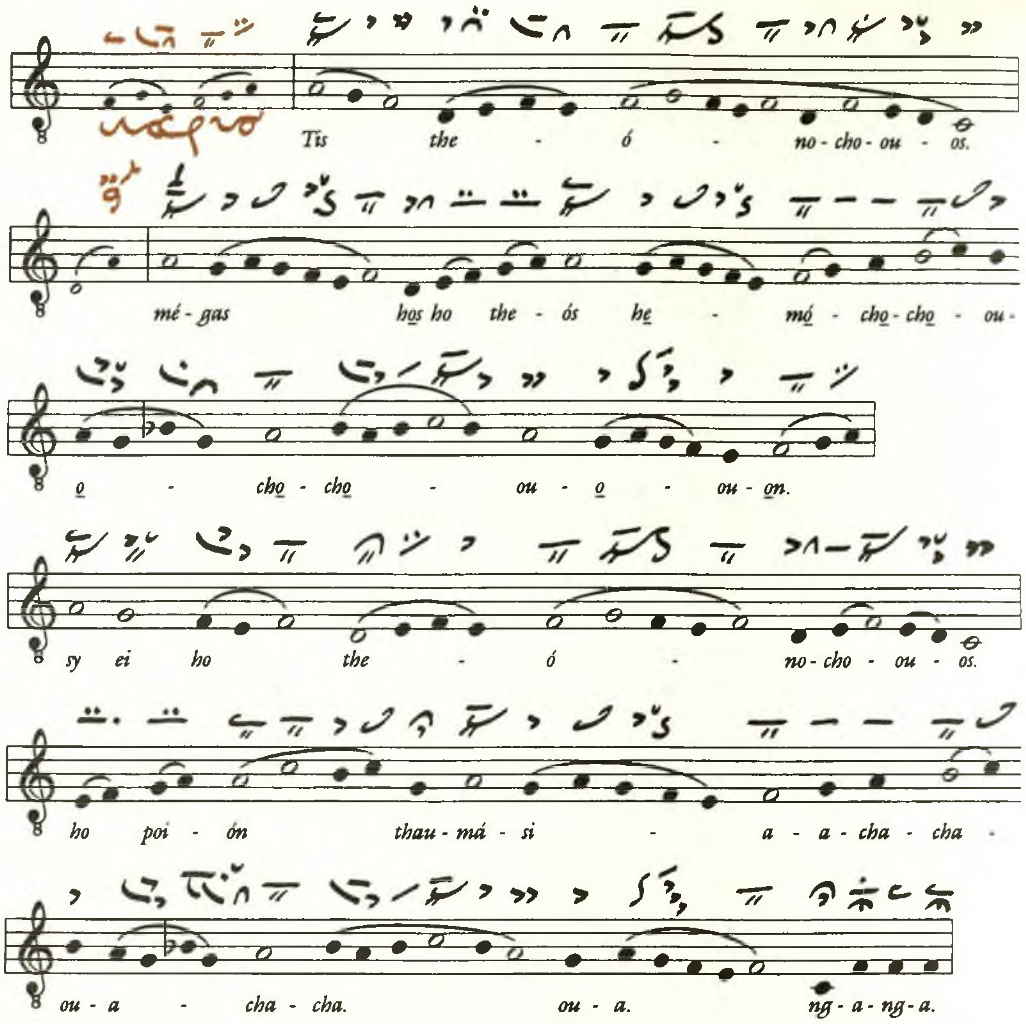
Although the *Asmatikón* is preserved in even fewer copies than the *Psaltikón*, and these likewise mostly from Southern Italy, it is a very important genre because its melismatic melodies can be traced back to the choral tradition of the old cathedral rite of Constantinople.[242] The *Asmatikón* shares a selection of musical features with various sub-styles of the *Psaltikón*, and major parts of the repertory were likewise absorbed by the *Akolouthíai* manuscripts from the beginning of the fourteenth century onwards.[243] The so-called 'asmatic syllables' *ne*, *na*, *ch*, and *ou* are inserted in the vowels supporting the melismatic passages and they might help to structure the fairly long 'text-less' phrases. So far, no complete *Asmatikón* is accessible in facsimile edition.

[242] For the *Asmatikón* and its sub-genres, see di Salvo 1962, Levy 1963, Conomos 1985 (*Koinoniká*), Hintze 1973 (*Dochaí*), Harris 1992 (*Hypakoaí*) and 1999 (*Koinoniká*).

[243] Abandoned in Constantinople after the Latin occupation (1204-61), this rite survived further North at the Hagia Sophia cathedral of Thessaloniki. A few 14th- and 15th-cent. manuscripts preserve versions of this cathedral rite (*akolouthía asmatiké*, 'the sung office'), including portions of the ornamented, 'asmatic' cathedral psalmody (see Strunk 1956, Hannick 1970, and Lingas 1997).



Example 58
(Sunday communion chant, *"Aineíte ton Kýrion" (Ps. 148,1),* Grottaferrata, Γ.γ.I, fol. 11r, second plagal mode, cf. plate 22)



Example 59
(*Dochḗ* ('choral refrain') for the *prokeímenon "Tis Theós mégas"*, for Easter and Christmas (Grottaferrata, Γ.γ.I, fol. 31v, *barýs* mode. See also Example 57)

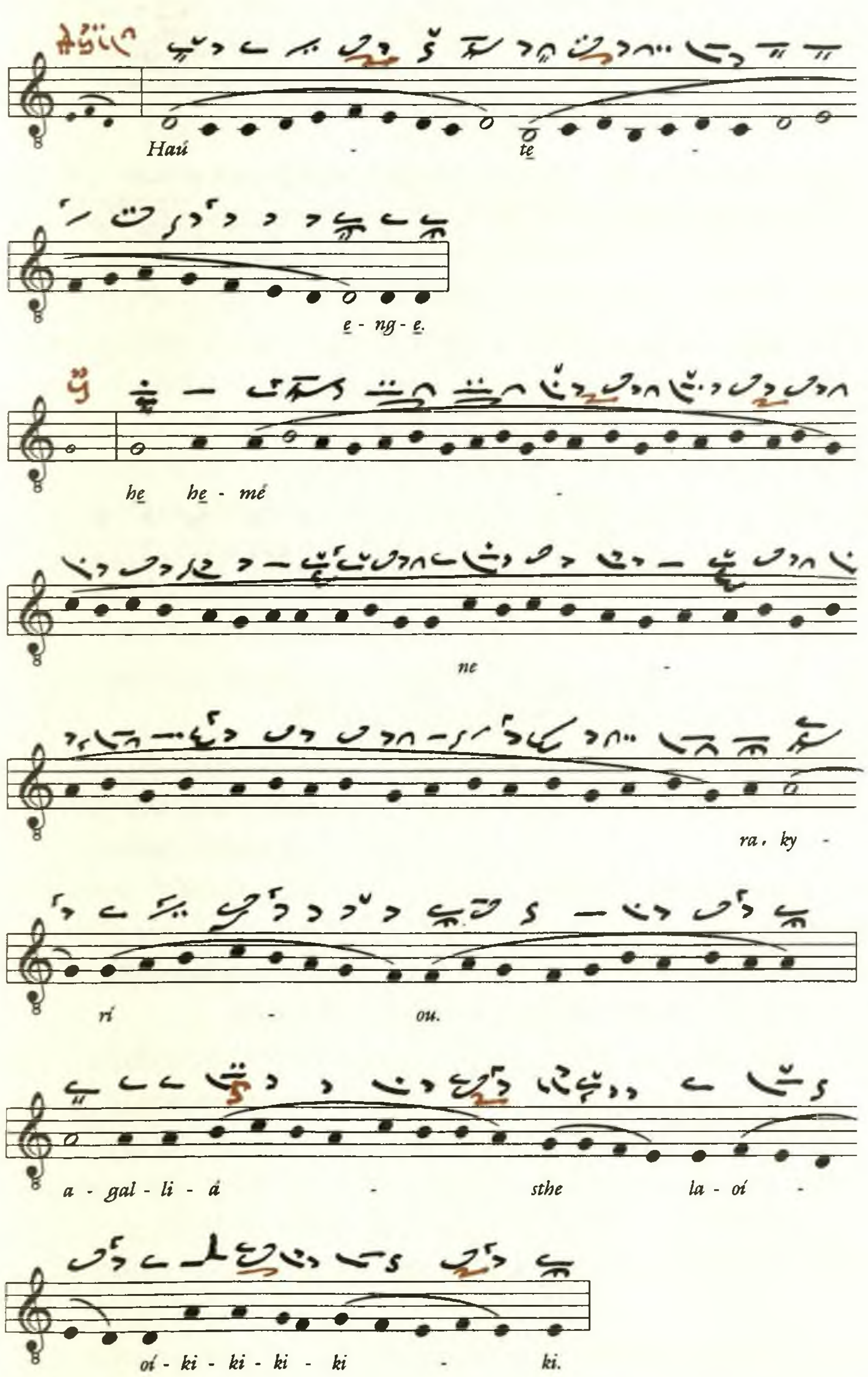
79. The kalophonic styles

Although a few 'proto-kalophonic' *sticherá* may be found in Palaeobyzantine musical manuscripts[244] and in a rare chant collection of the thirteenth century identified as *Ásma*,[245] the mature kalophonic style is first documented in fourteenth-century manuscripts.[246] The *kalophonía* (literally 'beautiful-voicing') consists in the embellishment of traditional melodies, or composition of new ones in the specific 'kalophonic style', that in some respects is comparable to the practice of using plainchant melodies as the basis for new original compositions in the West. But where the Western *cantus firmus* technique adds more voices to the plainchant melody, the Byzantine kalophonic practice remained in principle monophonic. The main characteristic of the *kalophonía* is melodic elaboration. A kalophonic piece makes use of the text and the modal lay-out of an original piece of plainchant, i.e. it follows the chain of modulations expressed by the MeSi, and, quite often, it also quotes the original melody at the beginning and – more often – in final phrases to be sung by the whole choir (*apó choroú*). The text phrases – or just a selection of the original text – can appear in a new sequence, in which case the new kalophonic composition is called *anagrammatismós* (recasting of phrases) or *anapodismós* (recasting of sections/feet).

Melodically, the kalophonic technique is characterised by passages with multiple repetitions of identical or quasi-identical neume groups, often consisting of two or four elements. Such passages tend to create long, sequential movements of the melody. Futher, the kalophonic style is characterised by the addition of so-called '*kratḗmata*' or

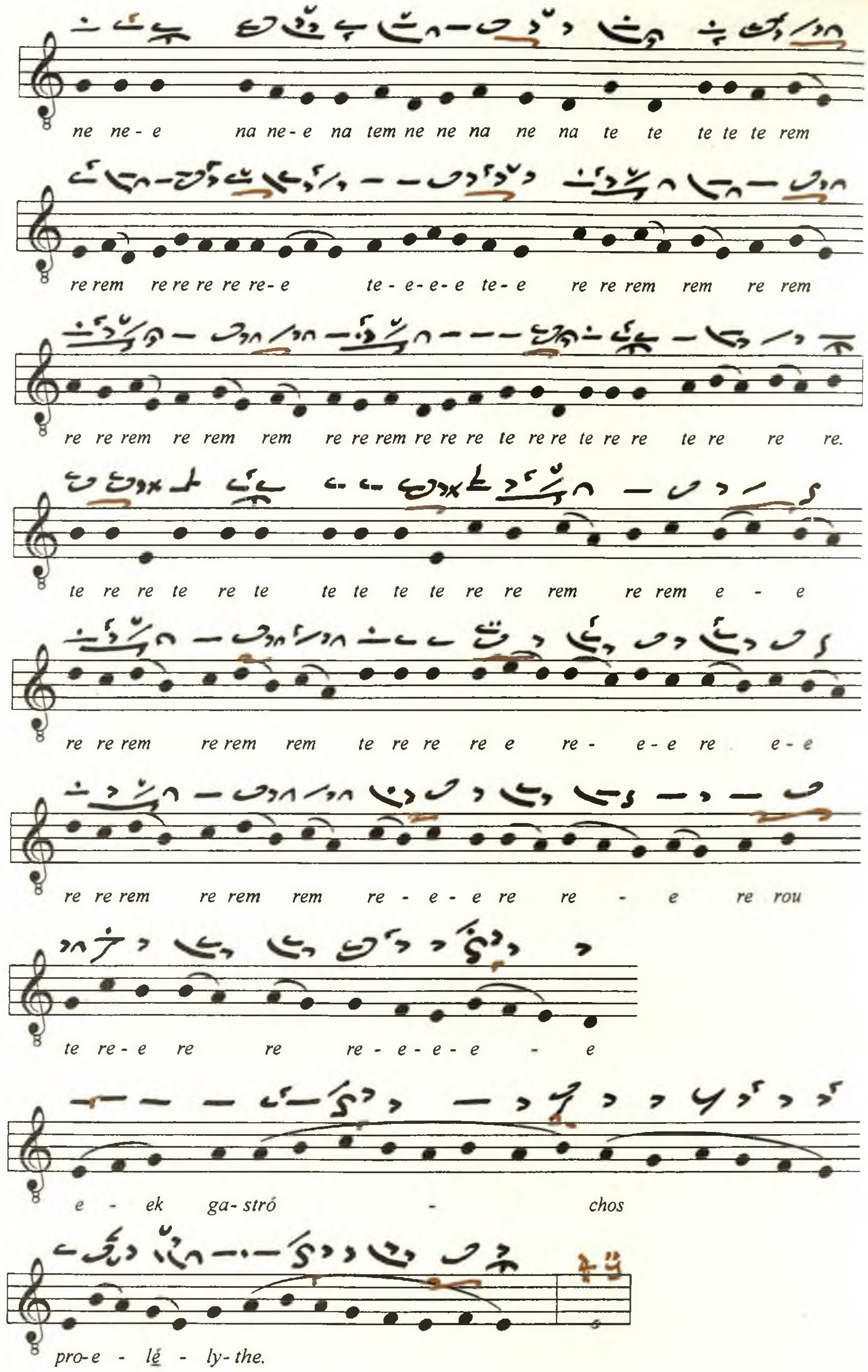
[244] Strunk 1966, Plates 73-75, and Floros 1970, II, 259-61.
[245] di Salvo 1959-60. In addition to the 'kalophonic' pieces, the *Ásma* presents primarily material that was later to enter the *Akolouthiai* manuscripts. The few preserved *Ásma* manuscripts are of South Italian origin.
[246] see Williams 1968, Conomos 1974, Chatzigiakoumis 1975, Stathis 1979, and Adsuara 1995. No MMB facsimile yet presents notation for kalophonic chanting.

'*tere(n)tísmata*', which are long passages sung to nonsense syllables such as "*te-re-rem*" and "*tor-ro-ro-to-to*", often with passages in a fanfare-like style characterised by fourth or fifth leaps, alternating with passages slowly rising towards a melodic climax (cf. Example 61). Occasionally, the chant texts of the kalophonic settings are also embellished with the the so-called 'asmatic syllables' *ne*, *na*, *ch*, *ou*, and *ng* ('double gamma'), see above, Examples 56-59. Together with certain melodic similarities, these features indicate that the kalophonic style was most likely developed from elements of the *Psaltikón* and *Asmatikón* styles. The *Akolouthíai* manuscripts (Anthologies) contain a great number of kalophonic compositions for the Office and Divine Liturgy from the fourteenth to sixteenth centuries, most of them attributed to named composers. In addition to this collection, there also developed kalophonic *Sticherária*, *Oikematária* (containing kalophonic settings of the full *Akáthistos* Hymn), collections of *kratémata* and *mathémata*,[247] collections of kalophonic *heirmoí*, and other kalophonic types.[248]



Example 60
(Kalophonic version of the beginning of the *sticherón 'Haúte he heméra'*, composed by Germanos the Monk (late 13th cent.), Sinai gr. 1251, 15th cent., fol. 17v. Cf. traditional syllabic version in Example 54).

[247] The term *Mathematárion* as synonymous with 'kalophonic *Sticherárion*' is attested from the beginning of the 17th cent., cf. Chatzigiakoumis 1980, 126, and became the current designation towards the end of that century.
[248] see Stathis 1979, 118 sqq.



Example 61
(a *krátēma* by Xenos Korones (14th cent.), interpolated in the above kalophonic *sticherón,* from same manuscript as Ex. 60).

Appendix

Specimens of manuscripts with known dates and provenances
(Plates 1-22, see also map, p. 58)

1) Patmos 218 (*Sticherárion*), fol. 132v. The manuscript was presented to the monastery of St John the Evangelist's on **Patmos** in **AD 1166/67**. The picture shows a probably not much later addition in Middle Byzantine notation, while the rest of the manuscript is written in a developed Palaeobyzantine (Coislin) notation. Original size c. 305 x 230 mm. Description by Kominis 1970, 25.
Contents: *Sticherá "Phanerón heautón tois mathetaís"* (cf. MMB XI 301v, eleventh *Heothinón*, 4th pl. mode) and *"Ek bréphous to Theó"* (cf. MMB XI 57v, for St Stephen the Younger, 2nd plagal mode).

2) Patmos 221 (*Psaltikón*), fol. 44v, written between **AD 1161-79**, probably in **Bithynia** (Asia Minor). Original size c. 205 x 148 mm. Description by Kominis 1970, 25-6.
Contents: *"Alleloúia"* and *allelouiárion* in 1st pl. mode *"Phos anéteile to dikaío"* (Ps. 96.11) with *stíchos "Euphránthete díkaioi"* (Ps. 96.12) in the 'short *Psaltikón* style' (cf. plate 13).

3) Sinai gr. 1218 (*Sticherárion*), fol. 258r, **AD 1177**, probably written in **Bithynia** (Asia Minor). Original size c. 294 x 228 mm. Description in *Specimina Sinaitica*, 56-57.
Contents: *Sticherá "Órthros en bathýs"* (fourth *Heothinón* 4th mode, cf. plate 15) and beginning of *"O ton sophón sou krimáton"* (fifth *Heothinón* 1st plagal mode, cf. plate 15).

4) Grottaferrata E.α.IX (*Sticherárion*), p. 105, written **AD 1180**, probably at **Grottaferrata** (Central Italy). Original size c. 263 x 186 mm. Description by Tardo 1931, 367.
Contents: *Sticherá* for St Euthymios *"Élampsan ta kalá érga sou"* (4th mode, ascribed to Theodore of the Stoudios, cf. MMB XI 108) and *"Hósie páter, ouk édokas hýpnon"* (1st pl. mode, cf. MMB XI 108v).

5) Vienna theol. gr. 181 (*Sticherárion*, MMB I), fol. 10r, written **AD 1221** by Ioannes Dalassenos from Hieron Kastron near **Constantinople**, provenance unknown. Original size c. 226 x 144 mm. Description in MMB I, 15-25, and by Hunger *et al.* 1984, 345-8.
Contents: *Sticherá* in 2nd pl. mode for the Nativity of Mary *"Haúte he heméra"* and *"Ei kai theío boulémati"* (cf. MMB XI 8v).

6) Sinai gr. 1464 (*Sticherárion*), fol. 205r, written **AD 1223**, probably in **Crete**. Original size c. 270 x 213 mm. Brief description by Beneševič 1917, 55-6.
Contents: *Sticherá* "*Synagogé ponerá*" (*barýs* mode = 3rd pl.) for Palm Sunday and "*Erchómenos ho Kýrios*" (1st mode) for Monday in Holy Week (cf. MMB XI 225v).

7) Patmos 220 (*Sticherárion*), fol. 27v, written **AD 1223** in **Rhodes**. Original size c. 280 x 210 mm. Description by Kominis 1970, 29-30.
Contents: *Sticherá* in 4th mode for the Presentation of Mary in the Temple "*Sémeron ho theochóretos naós*" and "*Deúte pántes hoi laoí, ten monén*" (cf. MMB XI 54r), and beginning of "*Epélampsen heméra charmósynos*" in 1st pl. mode (cf. MMB XI 54v).

8) Grottaferrata Γ.γ.V (*Psaltikón*), fol. 182r, **AD 1225**, written at the San Salvatore monastery, **Messina** (Sicily). Original size c. 238 x 171 mm. Brief description by Tardo 1931, 368.
Contents: *Allelouiária* (2nd pl. mode) "*Ho esthíon ártous mou*" (Ps. 40.10b-11) and beginning of "*Makarioi hous exeléxo*" (Ps. 64.5a).

9) Sinai gr. 1231 (*Sticherárion*), fol. 188r, **AD 1235/36**, the Kellibaron monastery on **Mount Latros** (Beşparmak), northeast of Miletos (Balat, Turkey). Original size c. 338 x 248 mm. Brief description by Gardthausen 1886, 136-7 and 627.
Contents: *Sticherá* for Pentecost "*Nyn to parákleton pneúma*" (3rd mode) and "*Parádoxa sémeron eidon ta éthne*" (4th mode, cf. MMB XI 266v).

10) Athos, Vatopediou 1492 (*Sticherárion*), fol. 3r, **AD 1242**, from Niphi near **Damascus**. Original size c. 324 x 223 mm. Description by Eustratiadis-Arkadios 1924, 234.
Contents: *Sticherá* (2nd mode) for Symeon the Stylite "*Ek rízes agathés*", "*To mnemósynón sou*", and "*He ton leipsánon sou théke, paneúfeme páter*".

11) Grottaferrata E.γ. II (*Heirmológion*, MMB III), fol. 124v, **AD 1281**, probably written in **Magna Graecia** (South Italy). Original size c. 240 x 150 mm. Description in MMB III, pars suppletoria 17-33.
Contents: *Heirmoí* in fourth mode "*Ídete, ídete, huioí ton gegenón*", "*Ídete, ídete, laoí*" (see Example 52a), and beginning of "*Ho tas kardías ereunón*".

12) Paris gr. 261 (*Sticherárion*), fol. 226r, **AD 1289**, probably written in **Cyprus**. Original size *c.* 240 x 165 mm. Brief description by Gastoué 1907, 82.
Contents: *Sticherá anatoliká* ('Eastern' or 'sunrising stichera') in 4th mode from the *Októechos* part of the *Sticherárion* "*Epethýmesan gynaíkes ideín*", "*Pou ésti Iesoús*", and "*Árti anéste Christós ho Kýrios*".

13) Florence, Ashb. 64 (*Psaltikón*, MMB IV) fol. 223v., **AD 1289**, from **Grottaferrata.** Original size c. 320 x 227 mm. Description in MMB IV, 11-39.
Contents: *Allelouiárion* in 1st pl. mode "*Phos anéteile to dikaío*" (Ps. 96.11) with *stíchos* "*Euphránthete díkaioi*" (Ps. 96.12) in the 'long *Psaltikón* style' (cf. plate 2).

14) Sinai gr. 1221 (*Stichera̱rion*), fol. 74v, **AD 1321**, probably written on **Mount Athos.** Original size c. 232 x 166 mm. Brief descriptions by Gardthausen 1886, 255 and Beneševič 1911, 137 and 622.
Contents: *Sticherá*: *"Hósie páter, eis pásan ten gen"* (2nd mode) for St Sabas and beginning of *"Enatenísas aklinós"* (1st mode) for St Nicolas.

15) Milano, Ambr. gr. 139 sup. (*Sticherárion*, MMB XI) fol. 299v, **AD 1342**, probably written at **Constantinople**. Original size c. 272 x 206 mm. Description in MMB XI, pars suppletoria 1-12.
Contents: *Sticherá "Órthros en bathýs"* (fourth *Heothinón* 4th mode, cf. plate 3) and beginning of *"O ton sophón sou krimáton"* (fifth *Heothinón* 1st plagal mode, cf. plate 3).

16) Sinai gr. 1230 (*Sticherárion*), fol. 132v, **AD 1365**, from the Monastery of St Eugenios at **Trebizond** (Trapezunt, Trabzon) in modern Turkey. Original size c. 290 x 210 mm. Brief description by Beneševič 1911, 158.
Contents: *Sticherá* for St Leontios *"Athlophóre Leóntie paneúpheme"* (1st mode) and *"Euphraínetai ho ouranós sémeron phaidrós"* (4th mode).

17) Sinai gr. 1229 (*Sticherárion*), fol. 202r, **AD 1374**, from **Tamathios** (Damiette, Dumyât) near Alexandria (Egypt). Original size c. 285 x 202 mm. Brief description by Beneševič 1911, 138-9 and 627.
Contents: *Sticherá* for first week in Lent *"Tes enkrateías ten tryphén"* (2nd mode), *"Phengobólous hymás hos astrapás"* (2nd mode), *"Areton Elíou prosepibás"* (2nd mode), and beginnng of *"Apóstoloi theíoi, tou kósmou"* (1st pl. mode).

18) Athos, Iberon 985 (*Akolouthíai*), fol. 7r, **AD 1425**, probably from **Constantinople**. Original size 220 x 145 mm. Description by Stathis 1993, 816-26.
Contents: Beginning of didactic song by Ioannes Koukouzeles *"Íson, olígon, oxeía"*, beginning in first mode.

19) Athens, National Library 2406 (*Akolouthíai*), fol. 442, **AD 1453**, from **Mount Menoikeion**, east of Serres (Northern Greece). Original size c. 215 x 150 mm. Description by Chatzigiakoumis 1980, 109-10.
Contents: *Theotokíon* (mode *barýs* = 3rd pl.) *"Ánothen hoi prophétai"* in kalophonic style by Ioannes Koukouzeles (*fl. c.* 1300).

20) Jerusalem, Patriarchal Library, New collection 4 (*Sticherárion*), fol. 232v, **AD 1655**, from **Constantinople**. Original size 287 x 200 mm. Description by Chatzigiakoumis 1980, 130-1.
Contents: *Sticherón* for Sunday of the Prodigal Son *"Eis anamárteton chóran"* (1st mode), redaction and autograph by Chrysaphes the Younger (*fl. c.* 1650-85).

21) Athos, Iberon 397 (*Anastasimatárion* with *Heirmológion*), fol. 229r, **AD 1724**, **Constantinople.** Original size 230 x 155 mm. Descripion by Chazegiakoumis 1980, 156-7.
Contents: *Heirmoí* in first mode in redaction by Balasios (*fl. c.* 1675-1700) *"Soú he tropaioúchos dexiá"*, *"Ho mónos eidós tes ton brotón"*, *"Óros se te cháriti"*, and beginning of *"Ho photísas te ellámpsei tes ses parousías"*.

22) Patmos **816** (*Akolouthíai*), fol. **387v**, **AD 1812**, **Samos.** Original size c. 185 x 125 mm. Brief description by Politis-Politi 1992, 491. Contents: Beginning of melismatic *Koinonikón* for Sundays in *barýs* (= 3rd pl.) mode "*Aineíte ton Kýrion*" (Ps. 148.1) with 'asmatic' letter χ inserted in the text. Cf. Example 58.

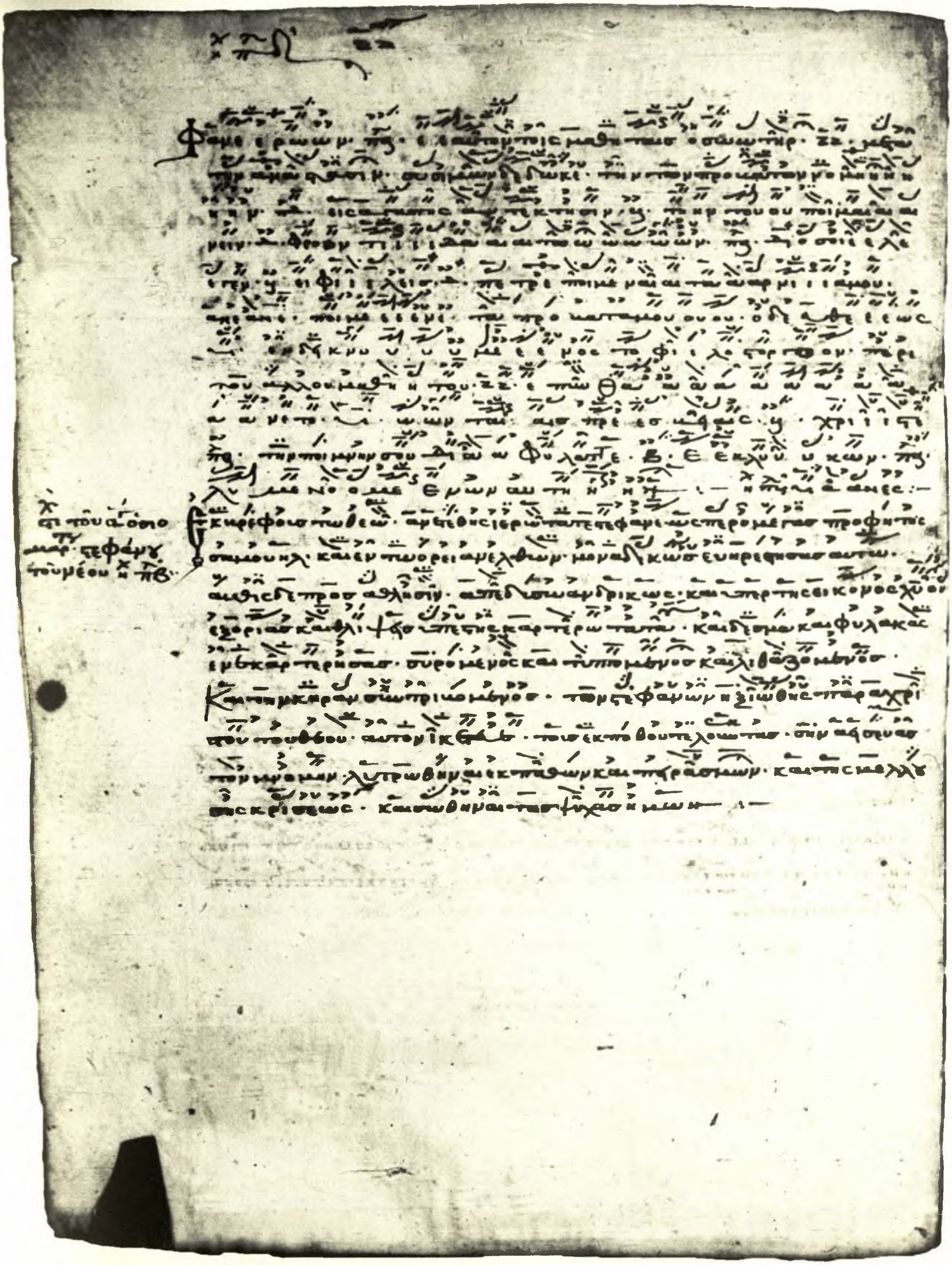


Plate 1 – MS Patmos 218 (*Sticherárion*), fol. 132v, AD 1166/67, Patmos

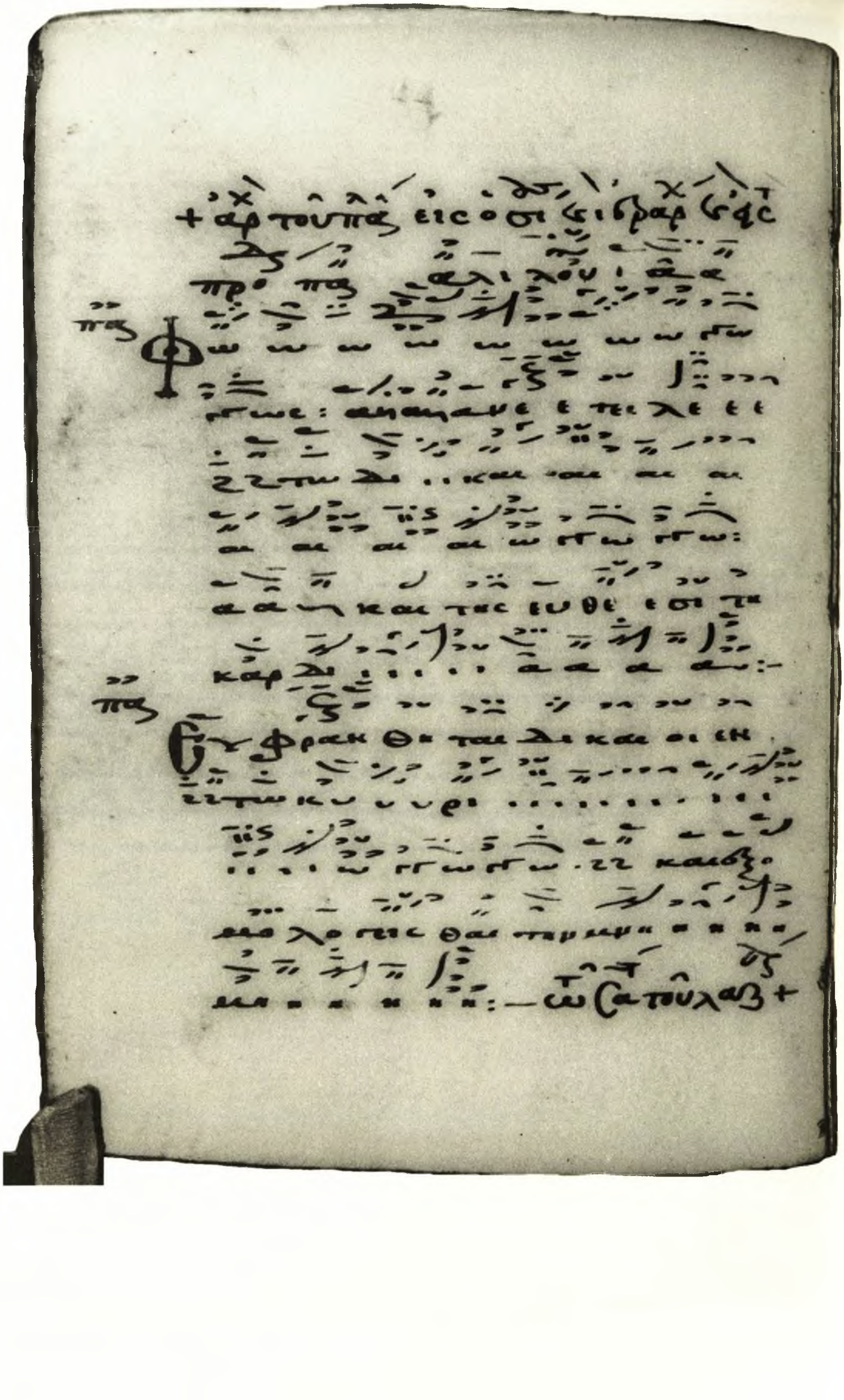


Plate 2 – MS Patmos 221 (*Psaltikón*), fol. 44v, AD 1161-79, Bithynia

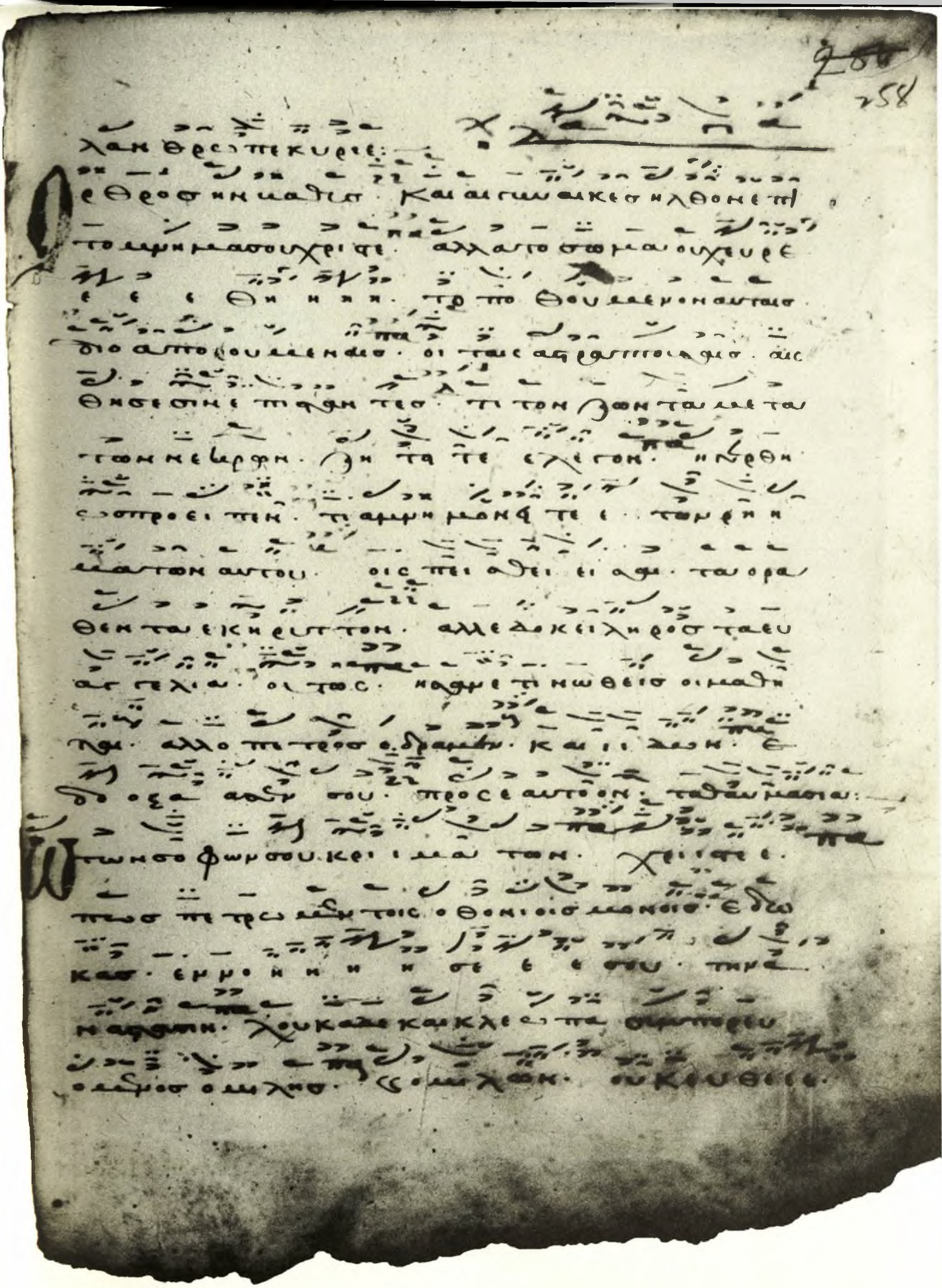


Plate 3 – MS Sinai gr. 1218 (*Stichęrárion*), fol. 258r, AD 1177, Bithynia

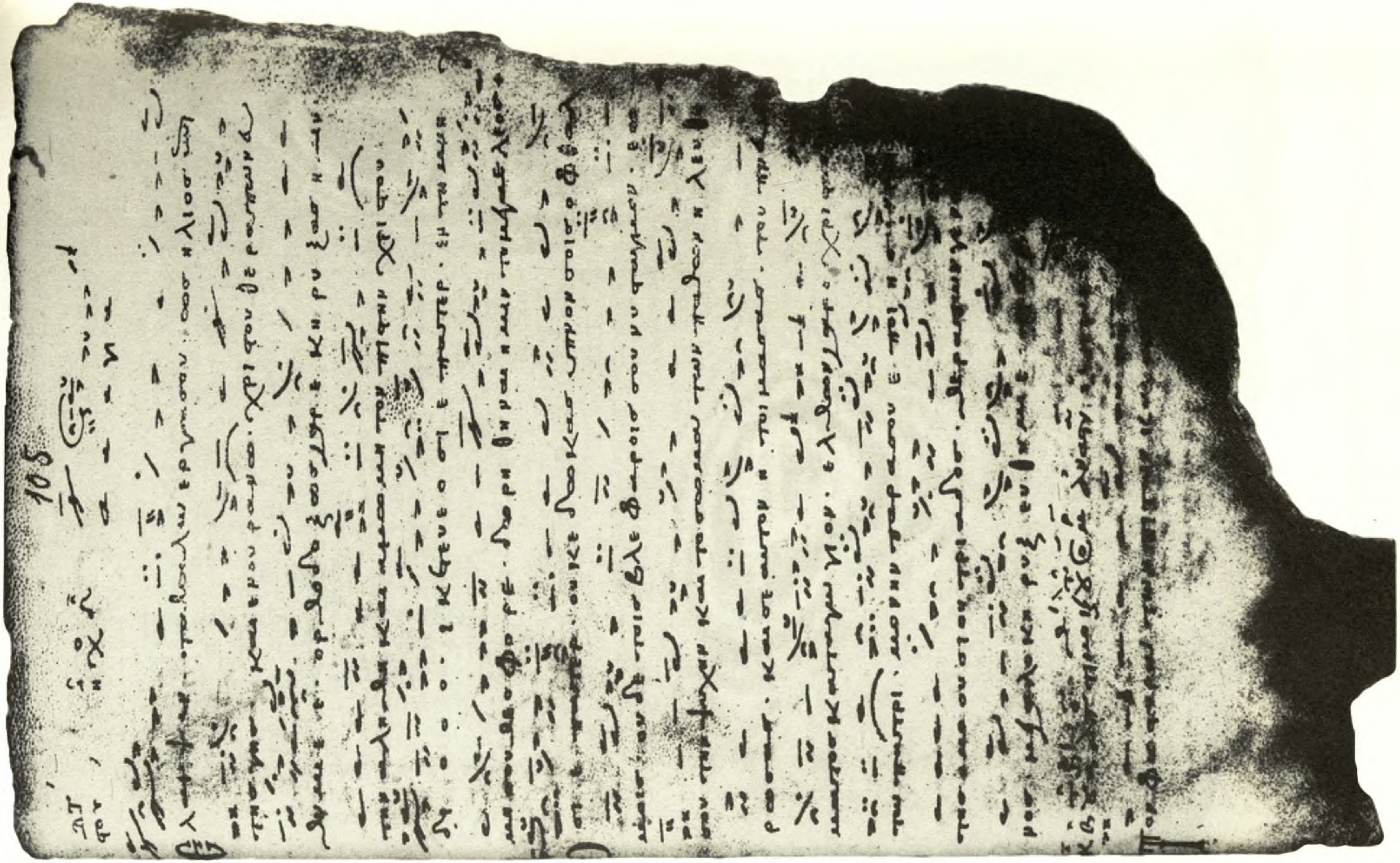
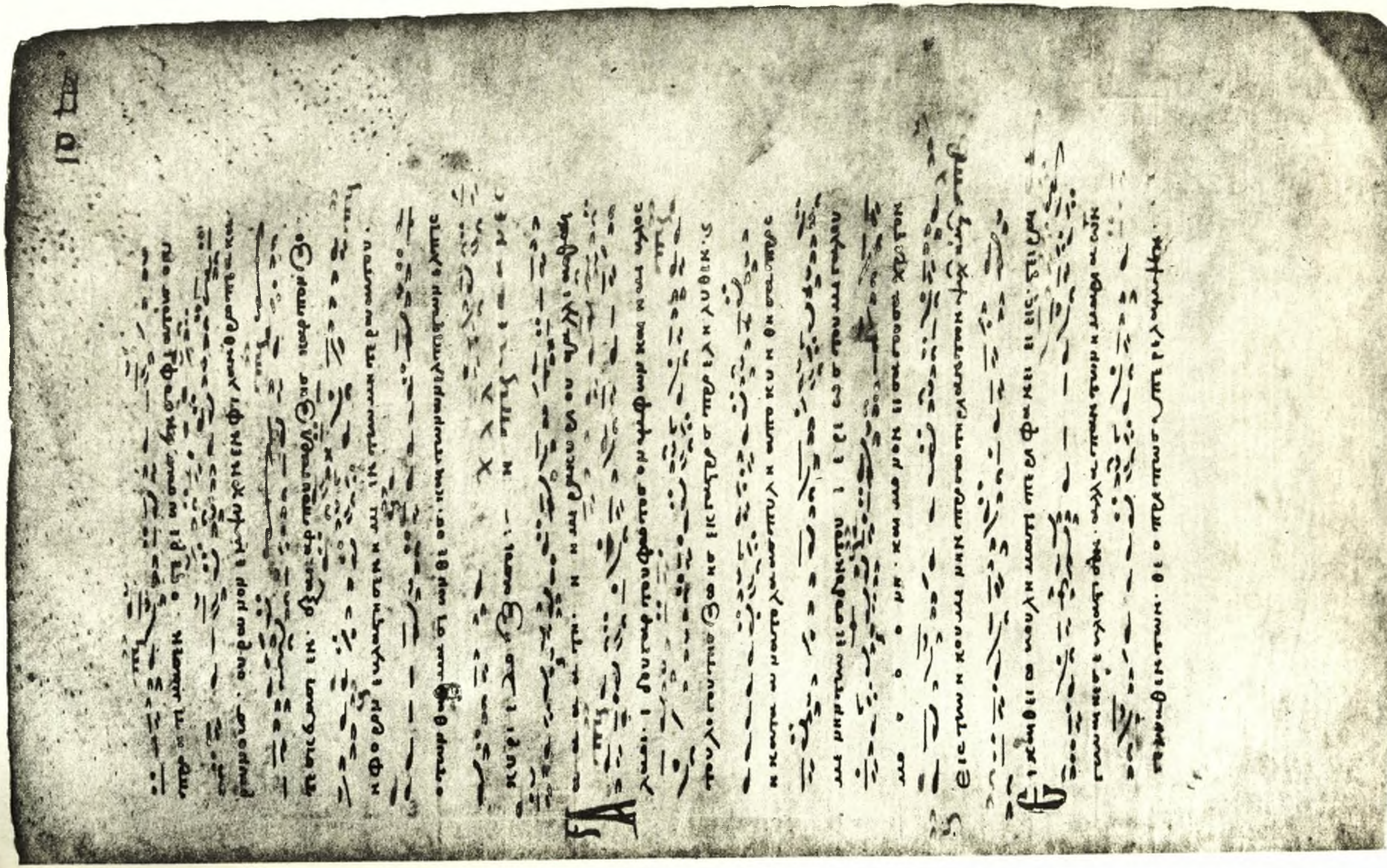


Plate 4 – MS Grottaferrata E.α.IX (*Sticherárion*), p. 105, AD 1180, Grottaferrata

Plate 5 – MS Vienna theol. gr. 181 (*Stichērárion*), fol. 10r, AD 1221



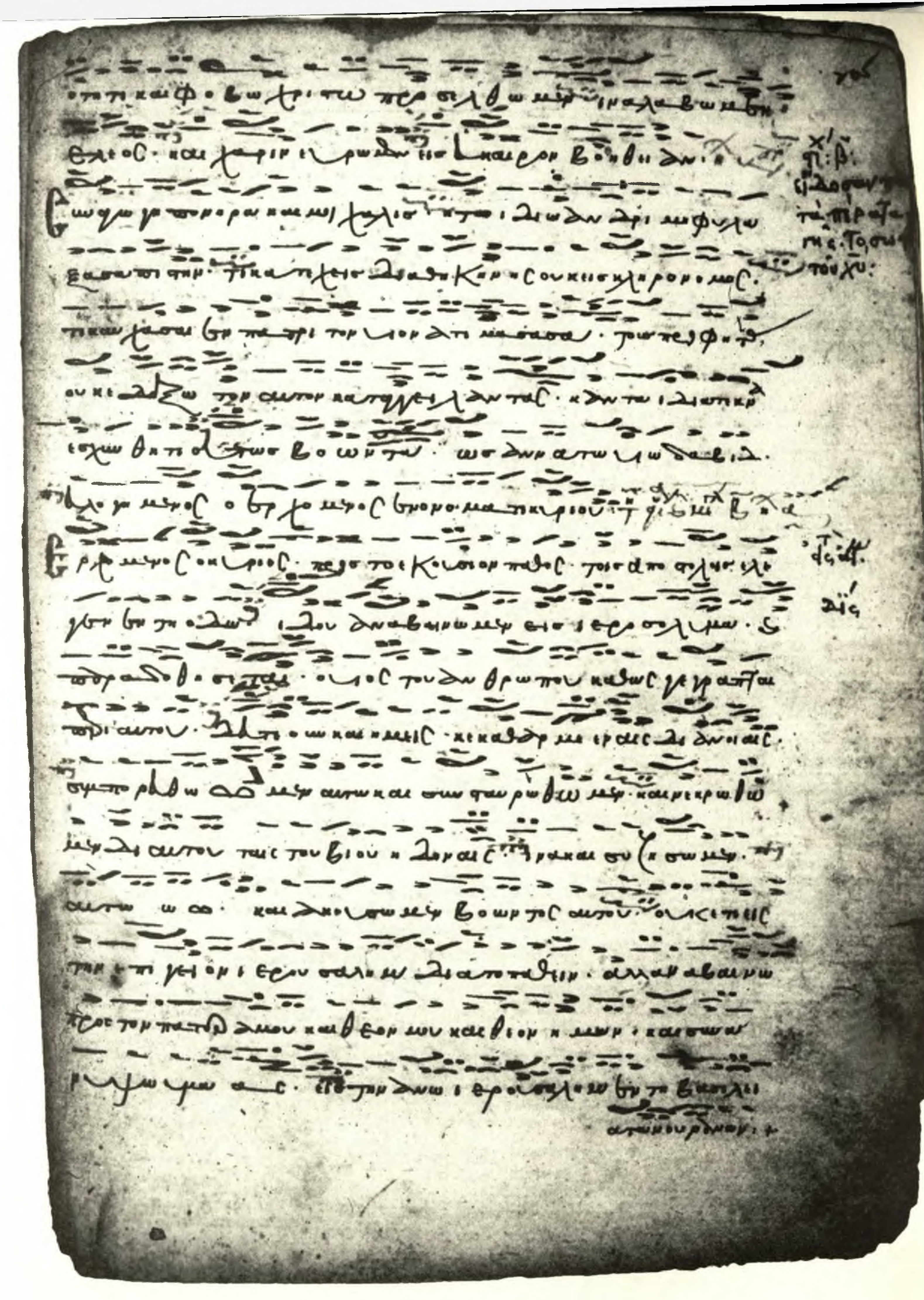


Plate 6 – MS Sinai gr. 1464 (*Stichẹrárion*), fol. 205r, AD 1223, Crete

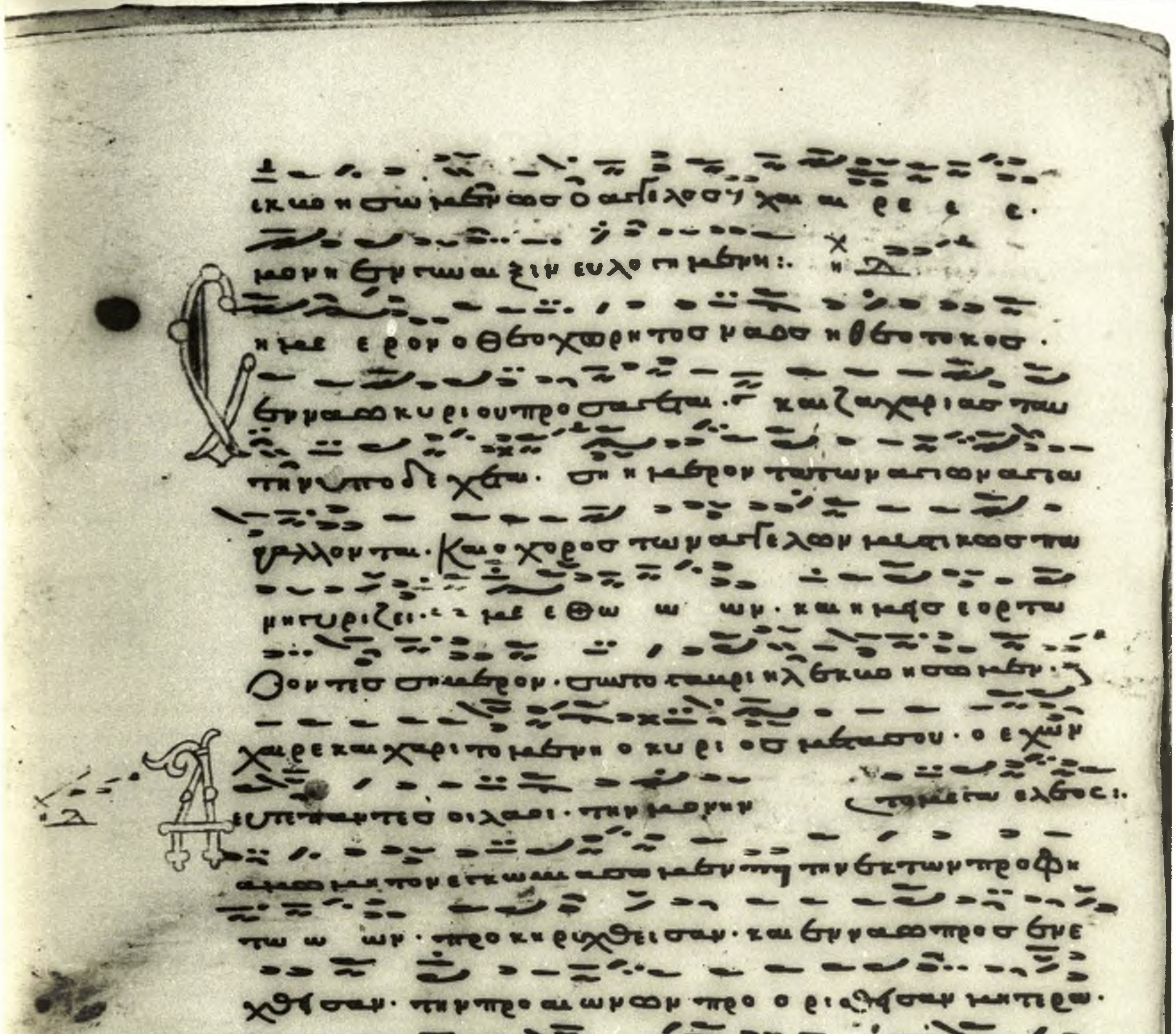


Plate 7 – MS Patmos 220 (*Sticherárion*), fol. 27v, AD 1223, Rhodes

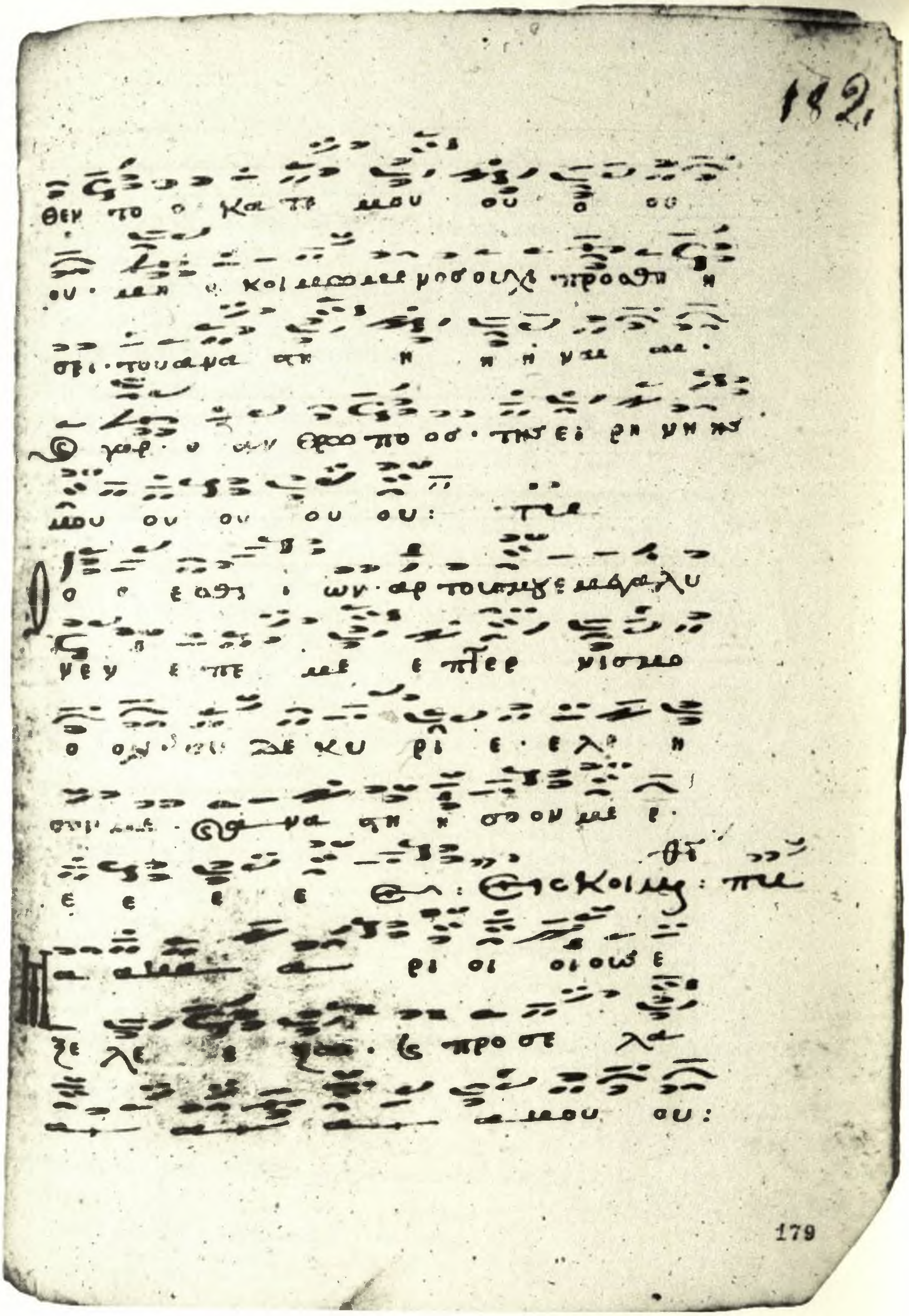


Plate 8 – MS Grottaferrata Γγ.5 (*Psaltikón*), fol. 182r, AD 1225, Messina

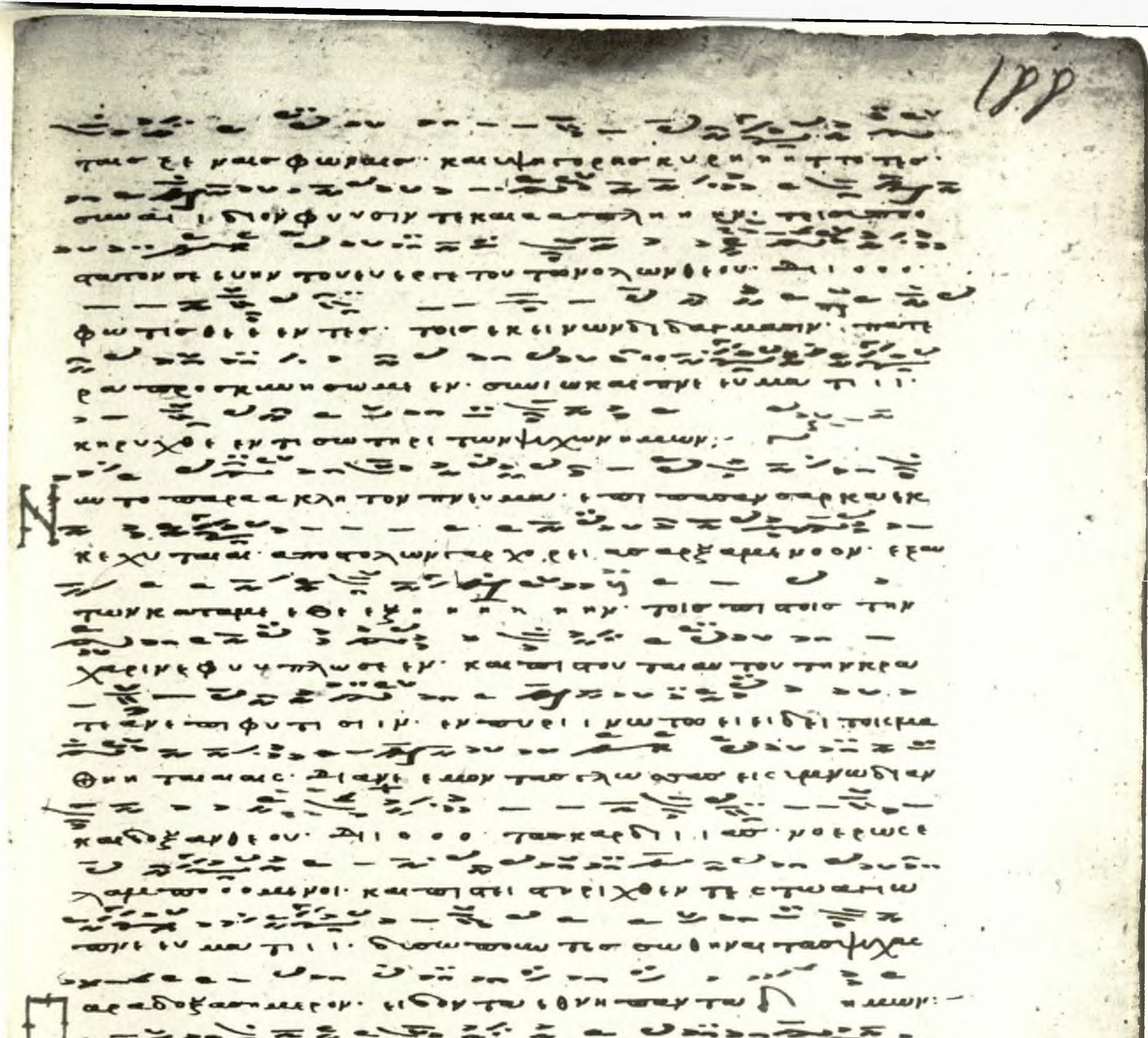


Plate 9 – MS Sinai gr. 1231 (*Sticherárion*), fol. 188r, AD 1235/36, Mount Latros (Besparmak, Asia Minor)

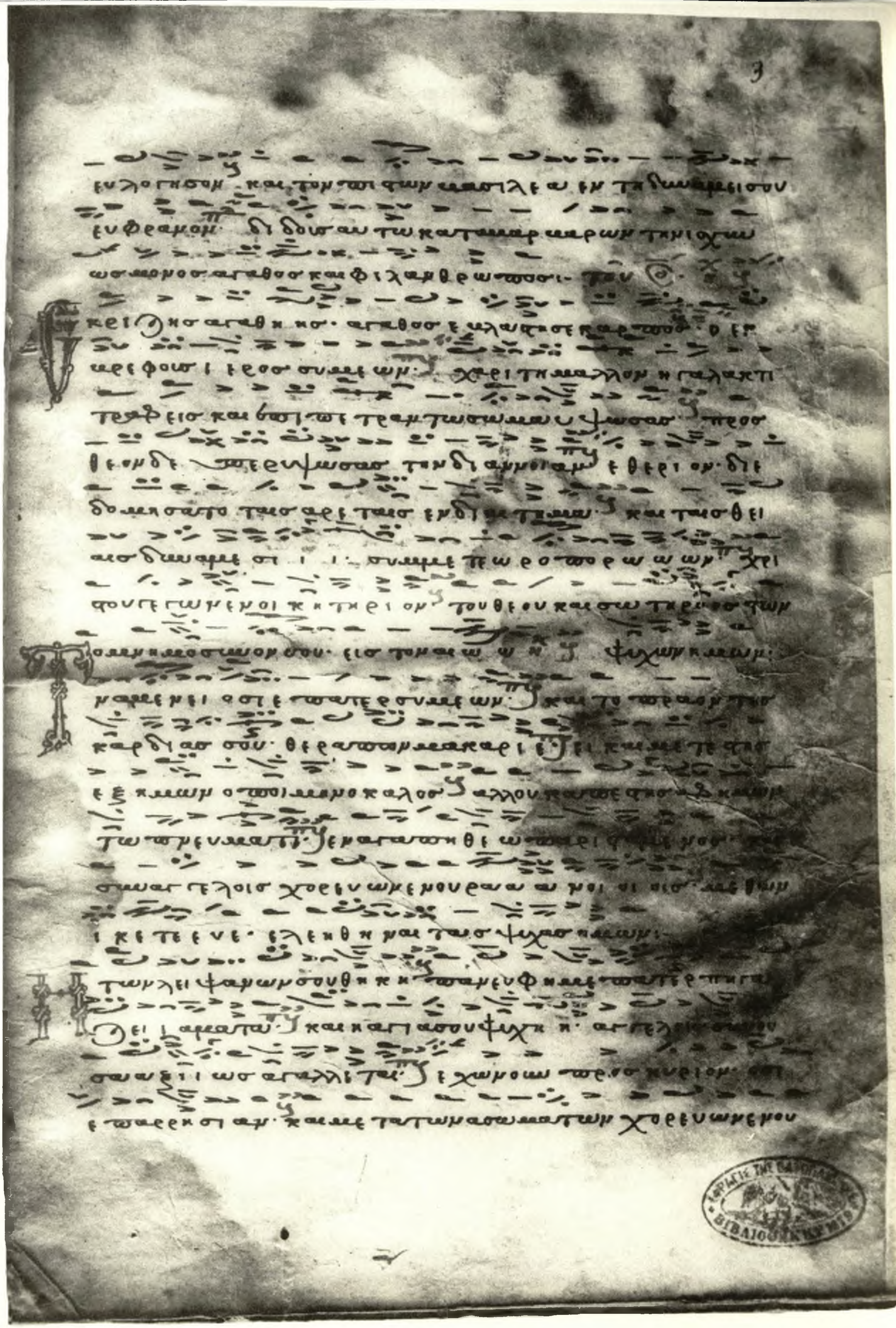


Plate 10 – MS Athos, Vatopediou 1492 (*Sticherárion*), fol. 3r, AD 1242, Niphi (Syria).

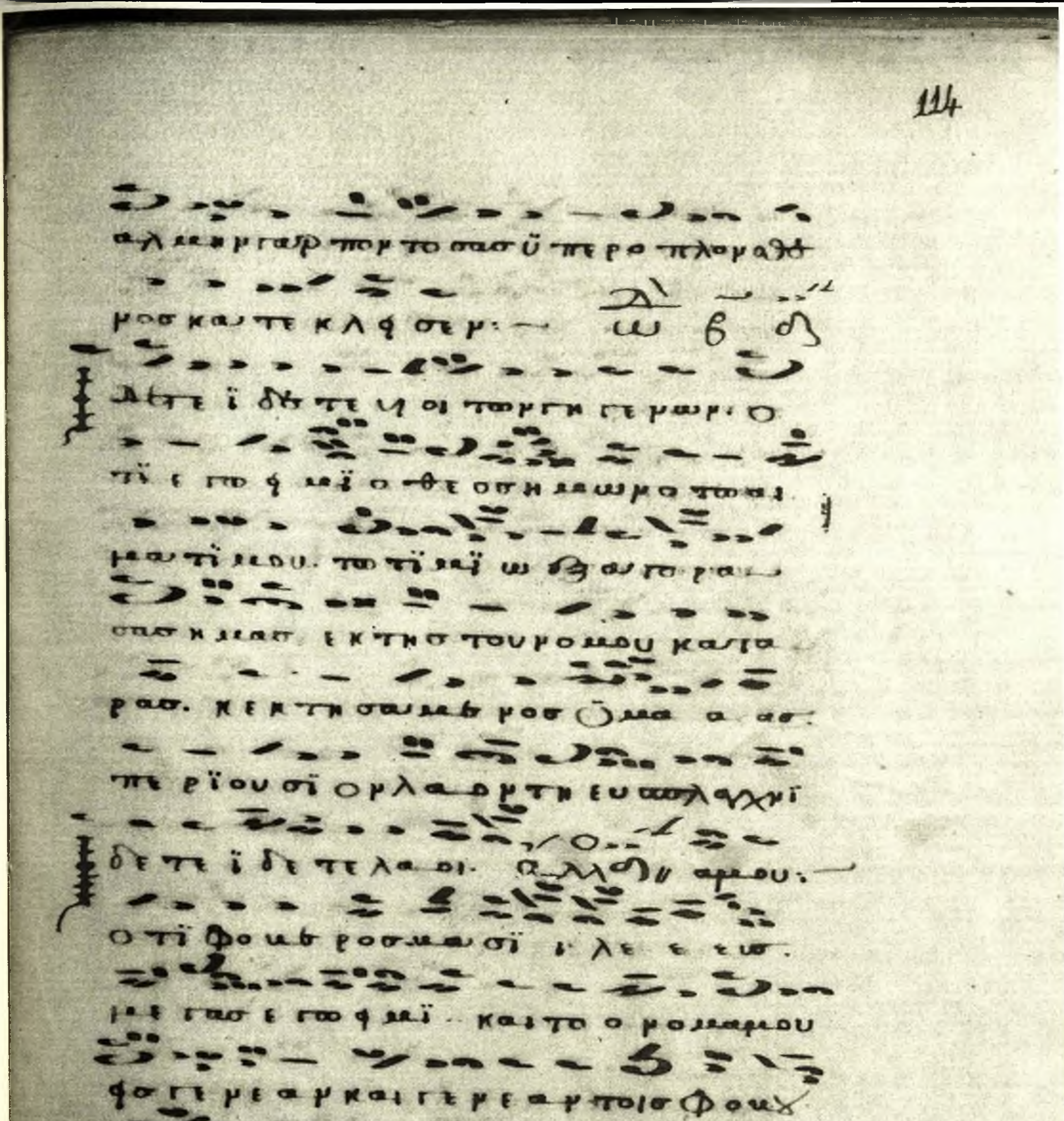


Plate 11 – MS Grottaferrata E.γ. II (*Heirmológion*), fol. 124v, AD 1281, South Italy.

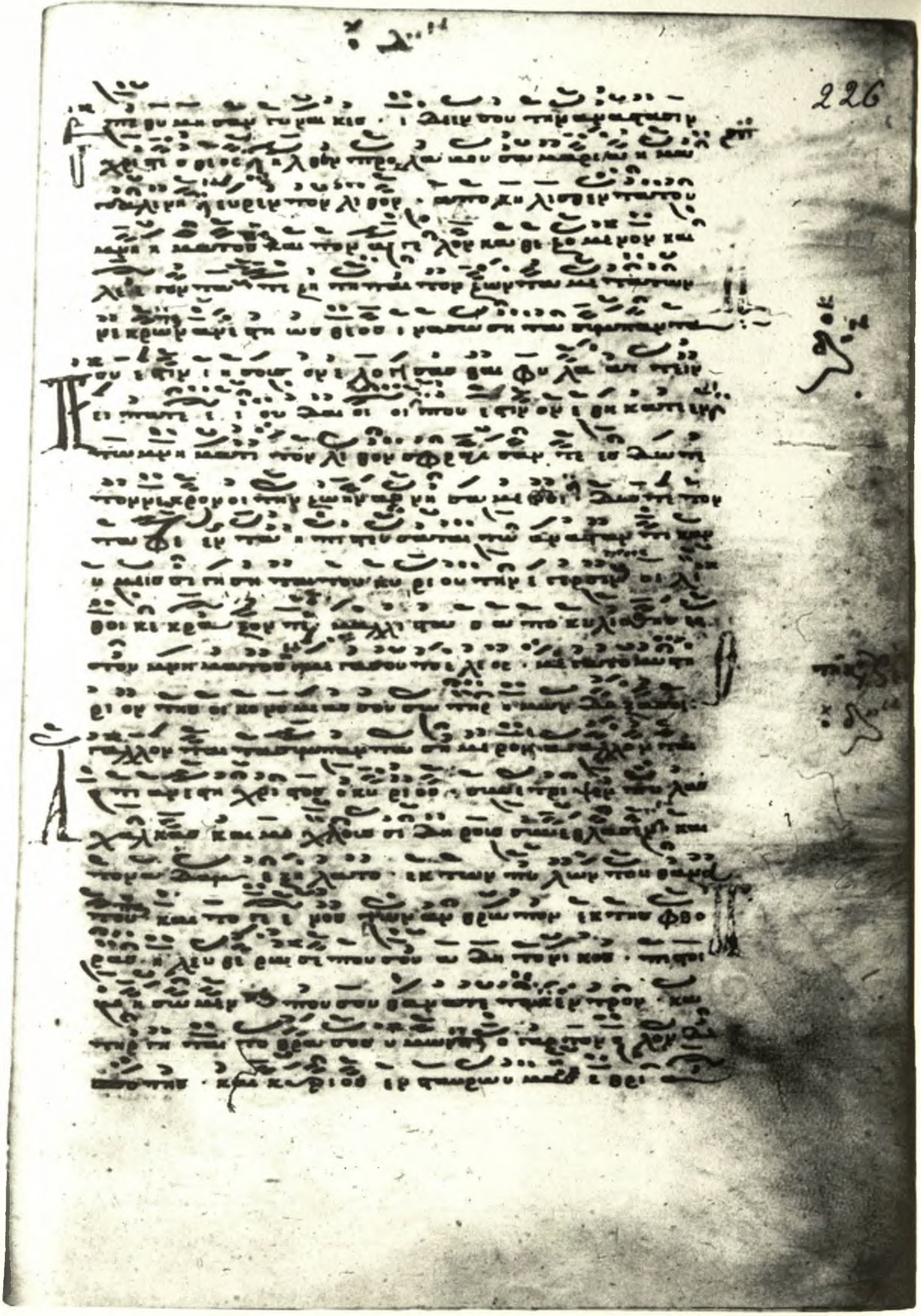


Plate 12 – MS Paris gr. 261 (*Sticherárion*), fol. 226r, AD 1289, Cyprus

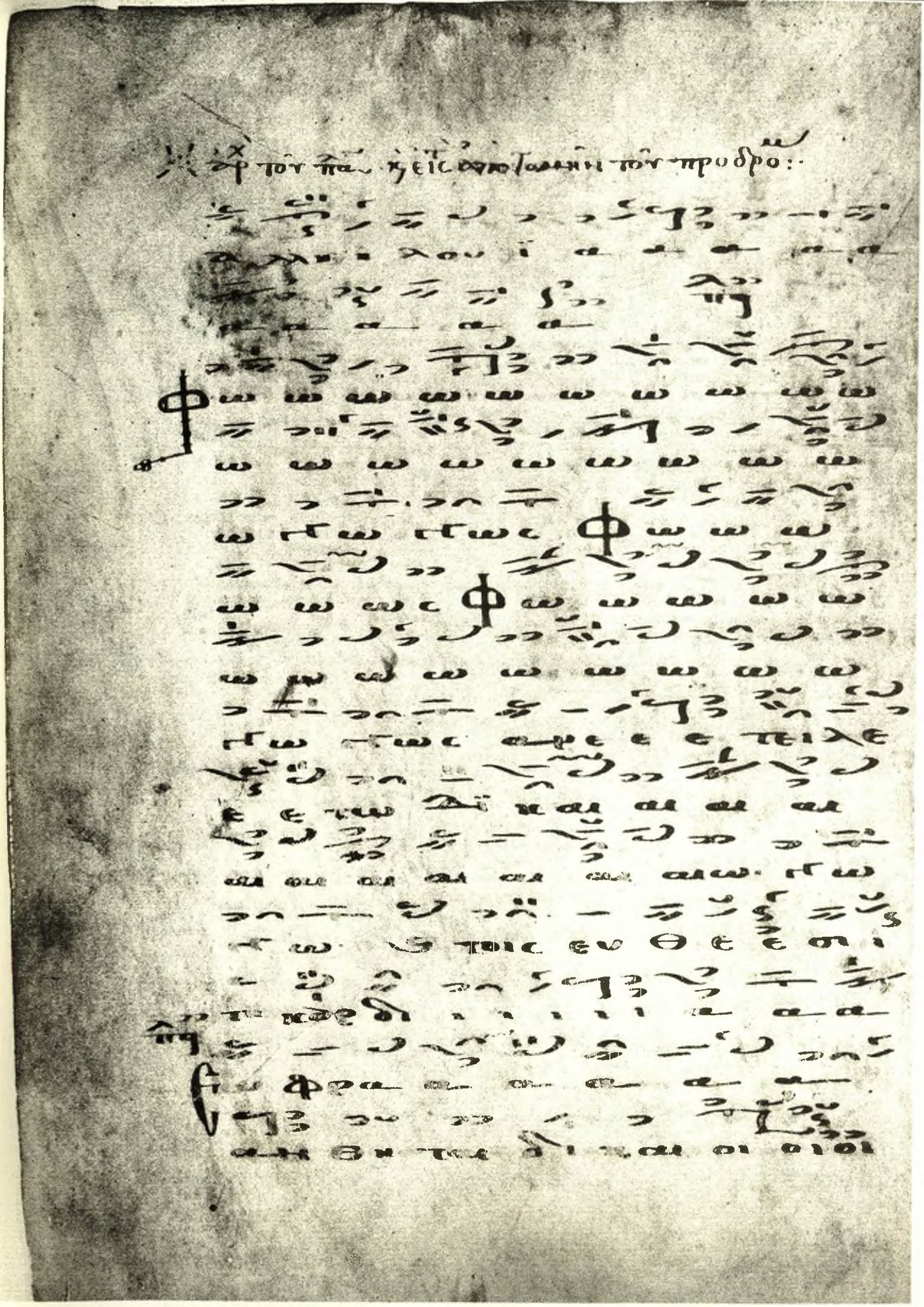


Plate 13 – MS Firenze, Ashb. 64 (*Psaltikón*) fol. 223v, AD 1289, Grottaferrata

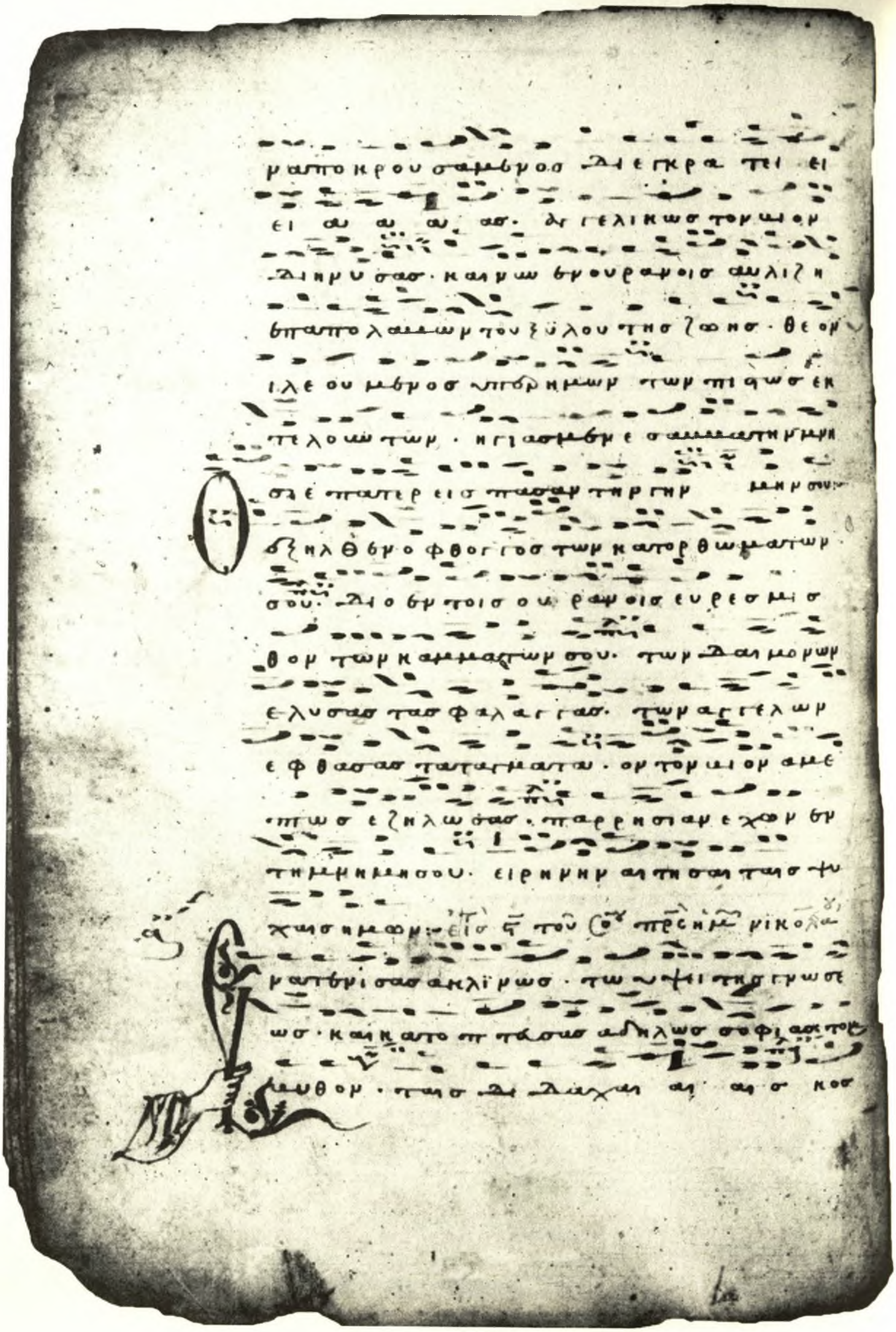


Plate 14 – MS Sinai gr. 1221 (*Sticherárion*), fol. 74v, AD 1321, Mount Athos

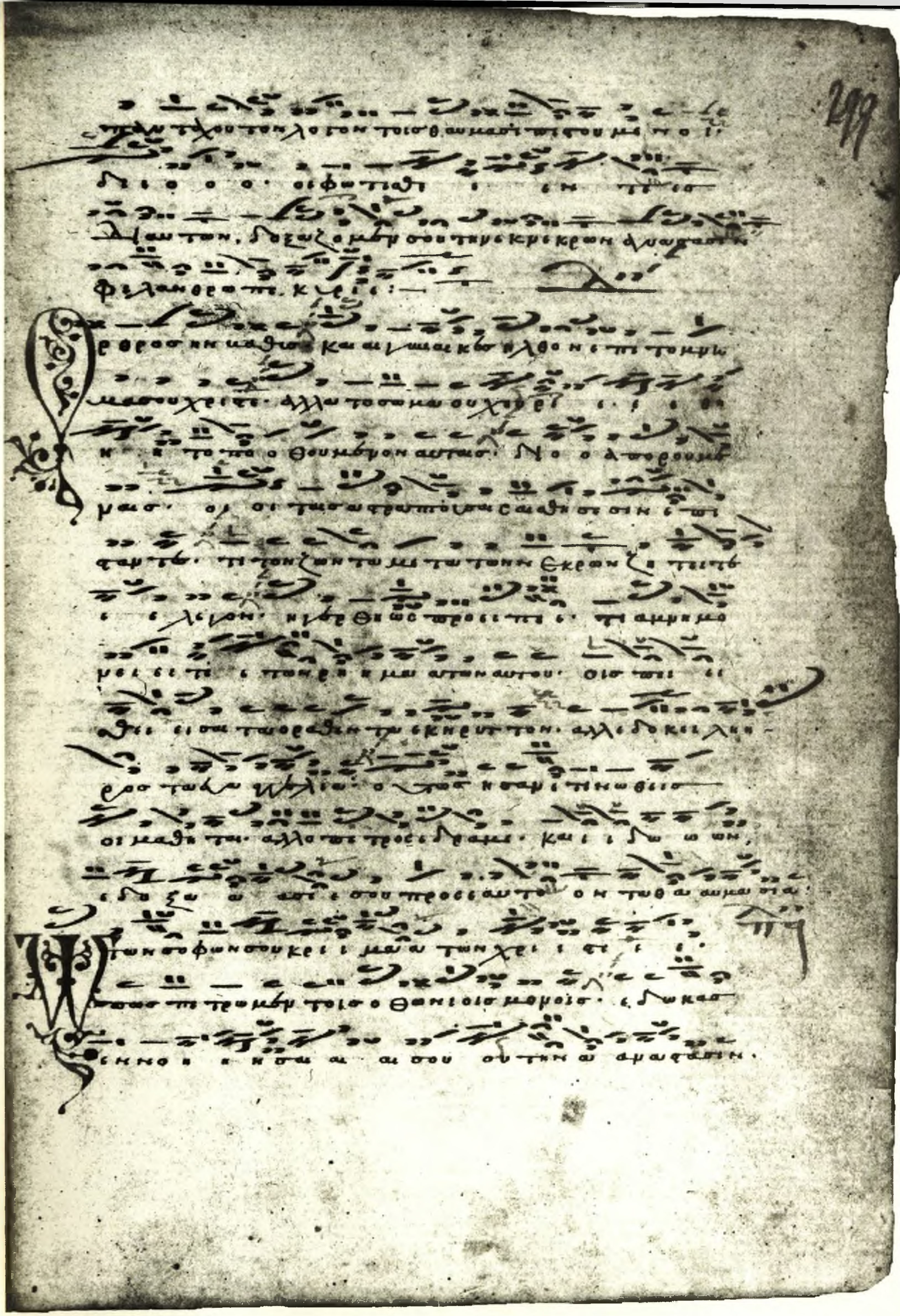


Plate 15 – MS Milano, Ambr. gr. 139 sup. (*Sticherárion*) fol. 299v, AD 1342, Constantinople

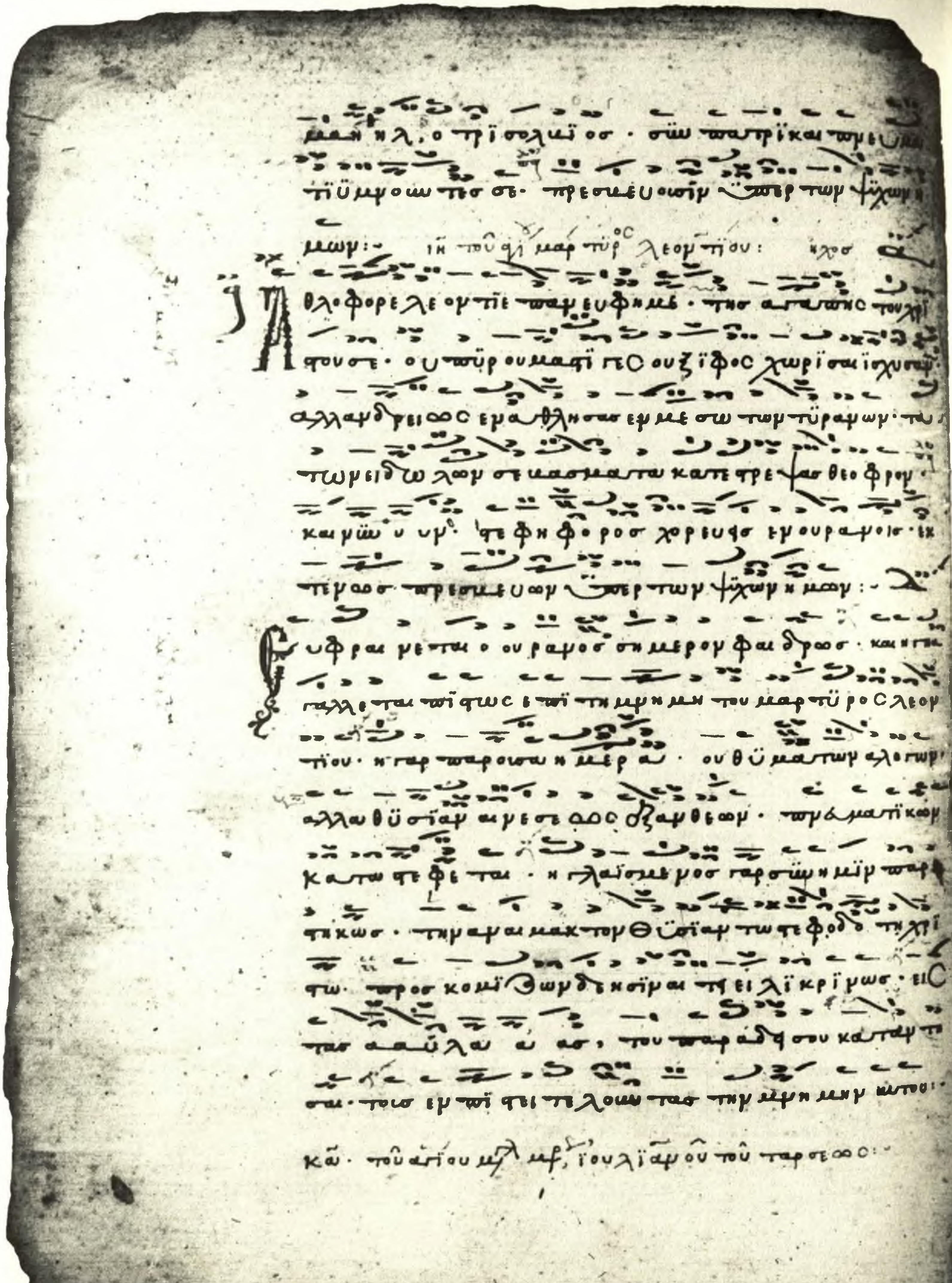


Plate 16 – MS Sinai gr. 1230 (*Sticherárion*), fol. 132v, AD 1365, Trebizond (Trabzon)

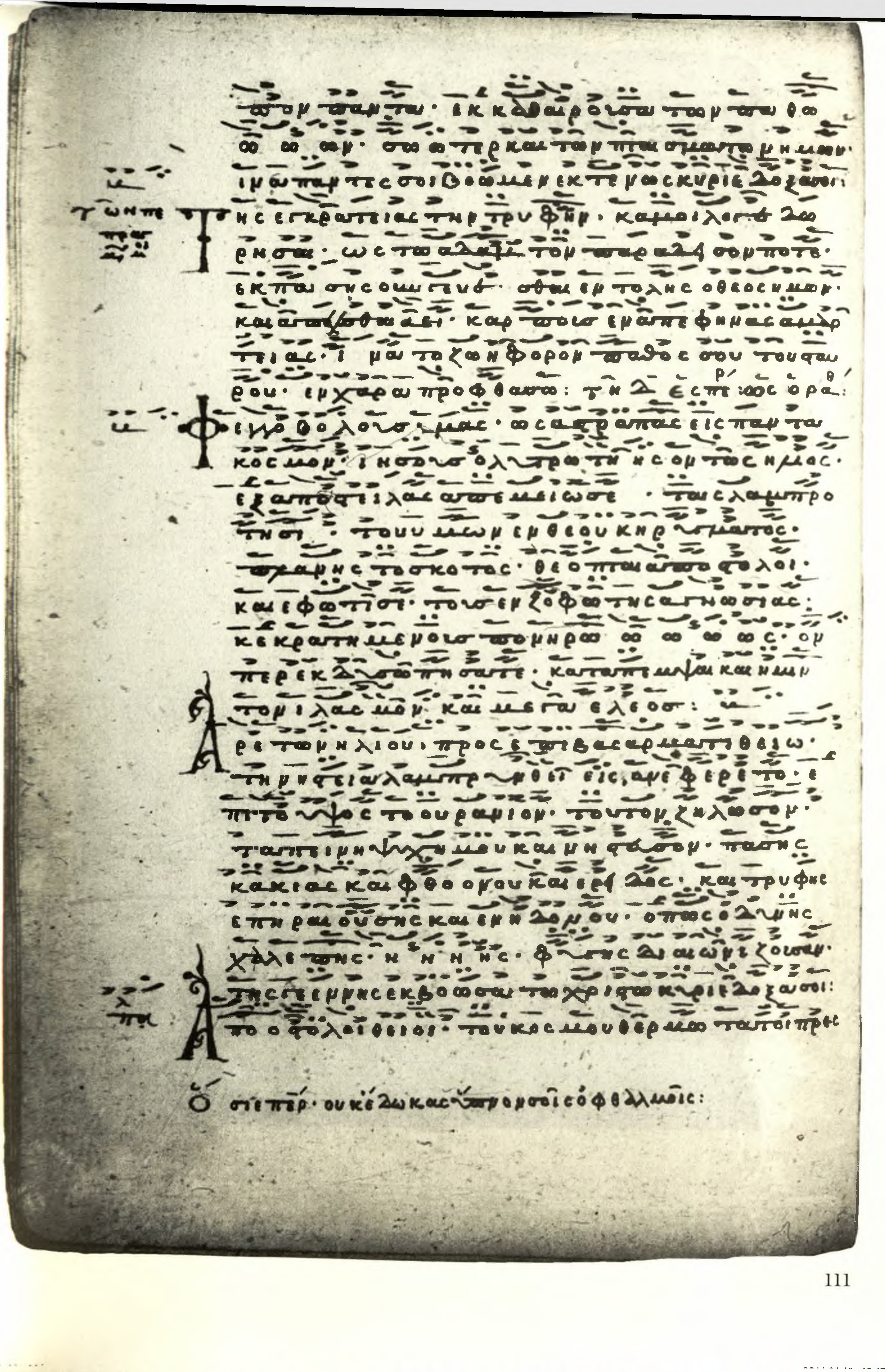


Plate 17 MS Sinai gr. 1229 (*Sticherarion*), fol. 202r, AD 1374, Damietta (Dumyat)

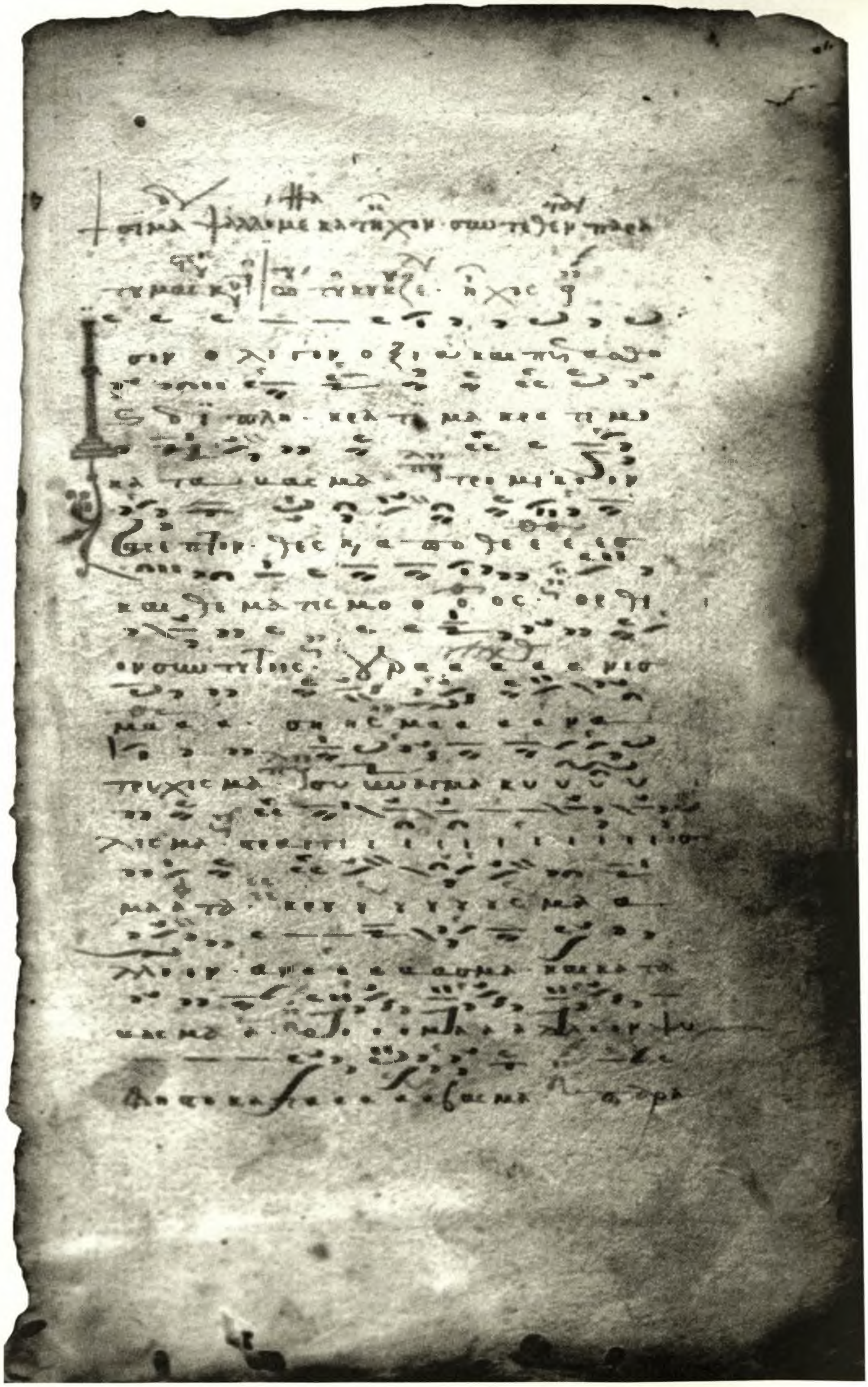


Plate 18 – MS Athos, Iberon 985 (*Akolouthiai*), fol. 7r, AD 1425, Constantinople

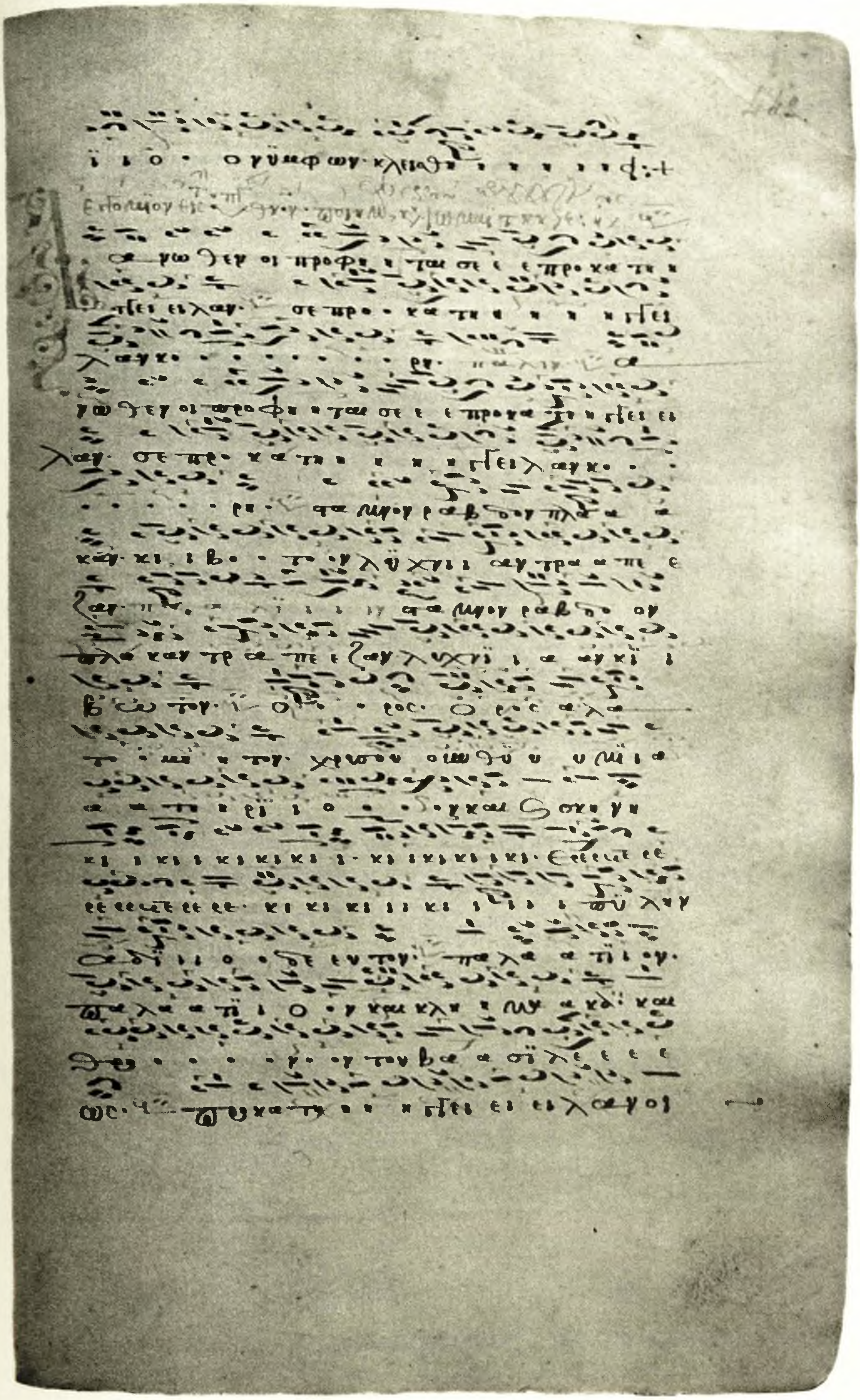


Plate 19 – MS Athens, National Library 2406 (*Akolouthiai*), fol. 442 AD 1453, Mount Menoikeion (Serres)

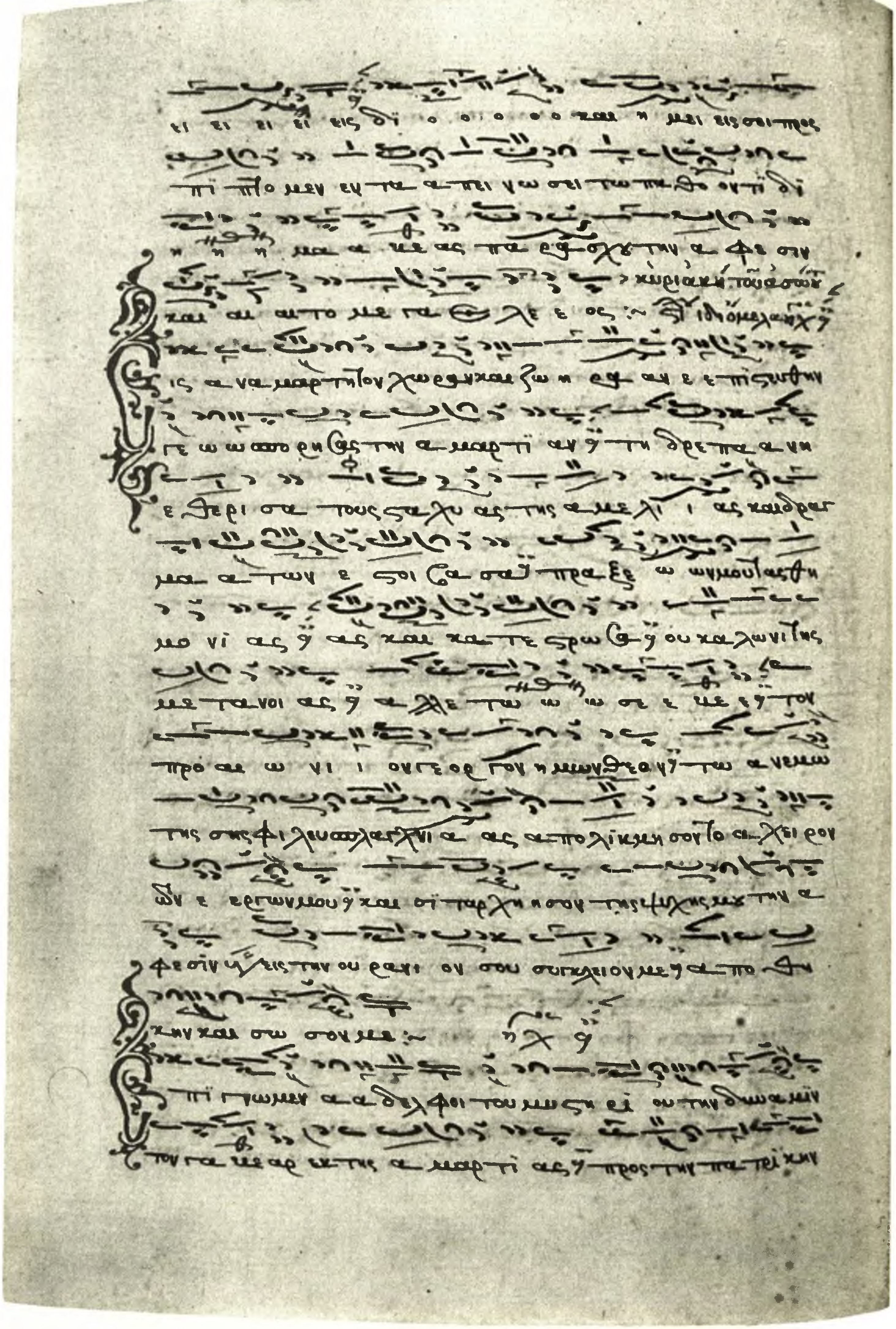


Plate 20 – MS Jerusalem, Patriarchal Library, New collection 4 (*Sticherárion*), fol. 232v,AD 1655, Constantinople

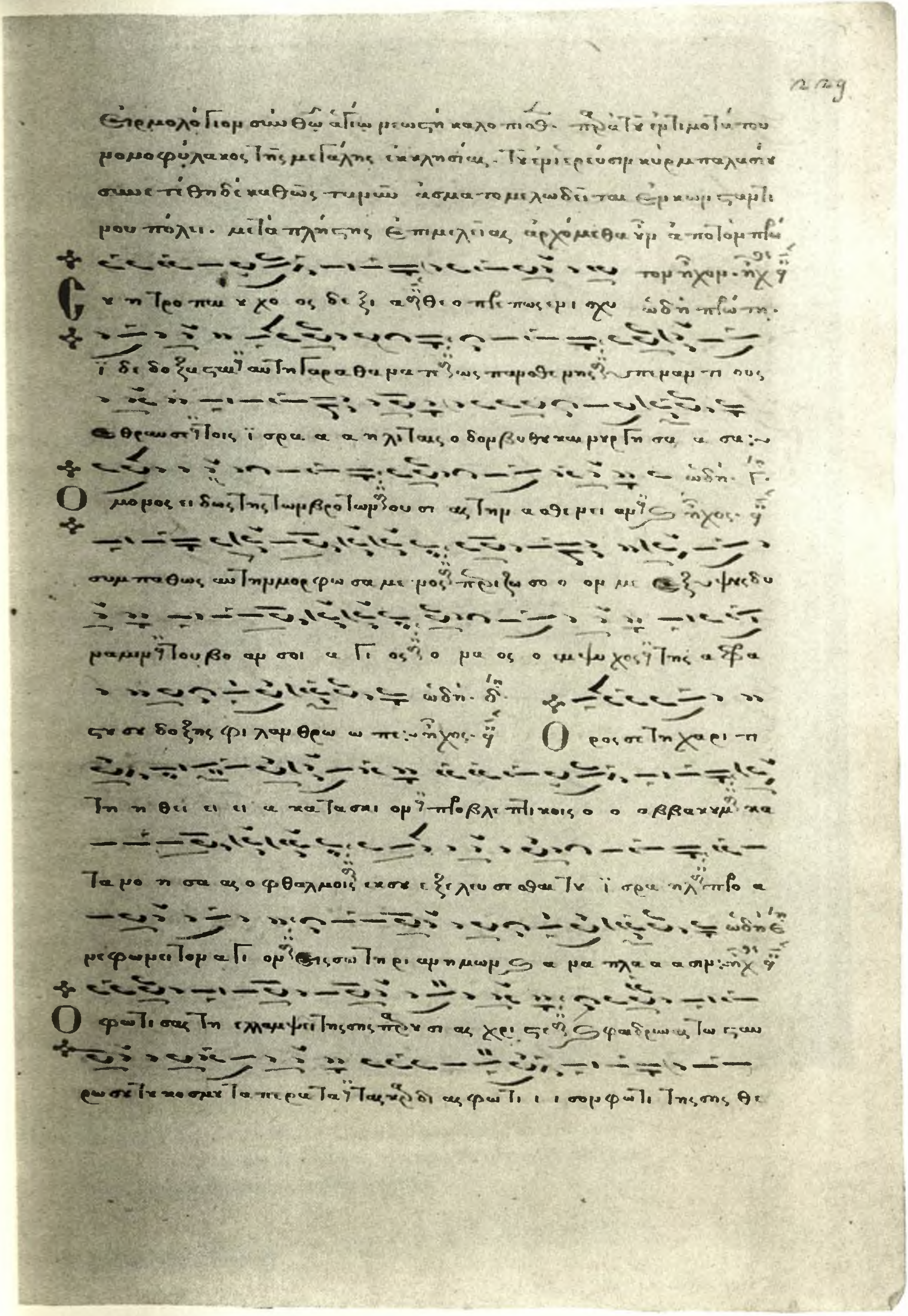


Plate 21 – MS Athos, Iberon 397 (*Anastasimatárion/Heirmológion*), fol. 229r, AD 1724, Constantinople

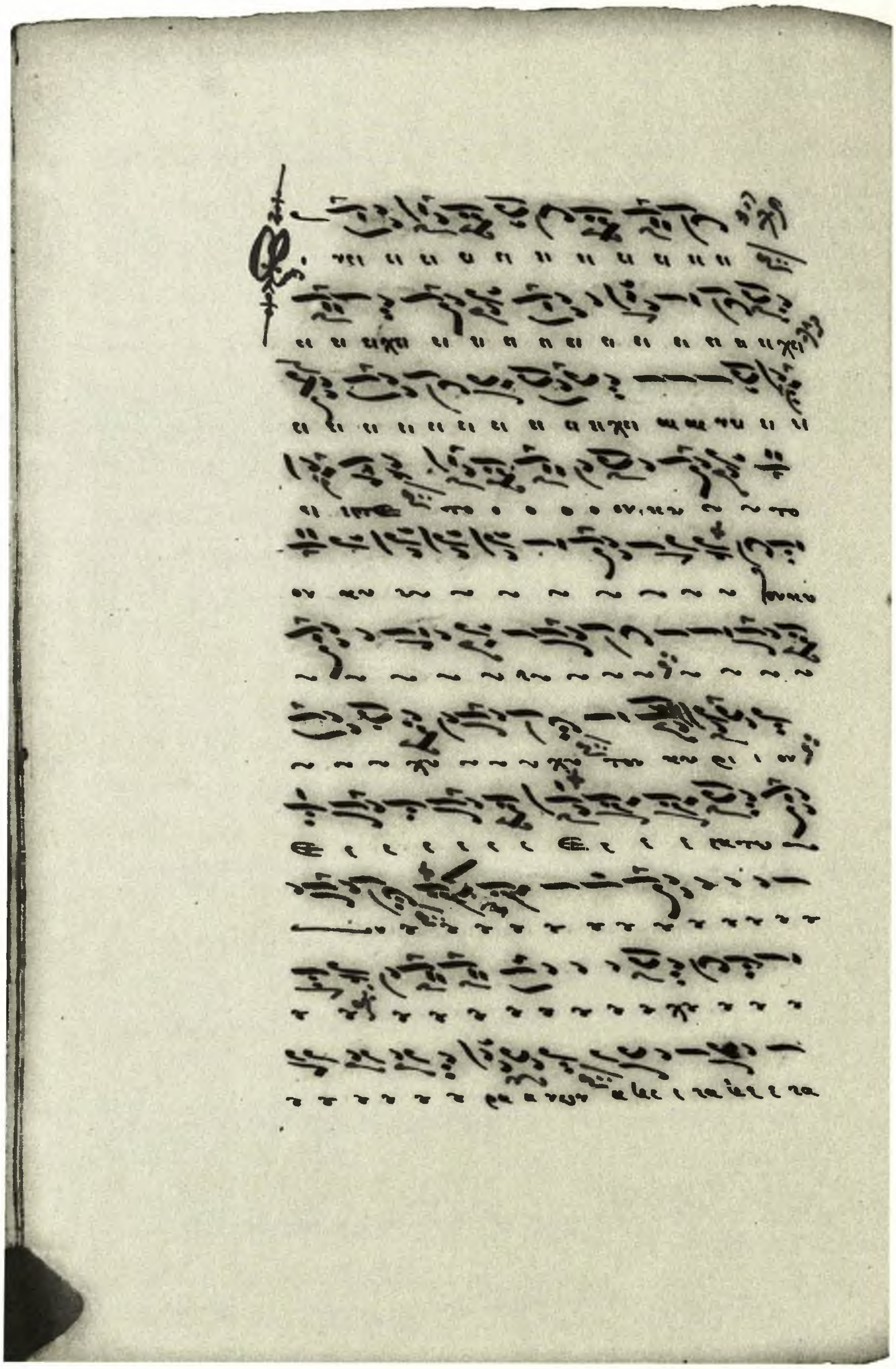


Plate 22 – MS Patmos 816 (*Akolouthíai*), fol. 387v, AD 1812, Samos

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Acta Musicologica, International Musicological Society

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Index of proper names

Index of manuscripts

Index of *neumes* and principal subjects

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1.1,5: *Pars prima, fasciculus quintus, lectiones Sabbati Sancti*, ed. Carsten Høeg and Günther Zuntz, Copenhagen 1962, 182 pp. The Old Testament readings of the Byzantine Rite for Holy Saturday edited with ekphonetic signs.

1.1,6: *Pars prima, fasciculus sextus, lectiones ab Ascensione usque ad dominicam Omnium Sanctorum*, ed. Carsten Høeg and Günther Zuntz, Copenhagen 1970, 112 pp. (with 7 plates). The Old Testament readings of the Byzantine Rite from Ascension to All Saints edited with ekphonetic signs.

Volume 1.2: *Prophetologium, pars altera:*

1.2,1: *Pars altera, lectiones anni immobilis, fasciculus primus textum continens,* ed. Gudrun Engberg, Copenhagen 1981, 16* + 191 pp. The Old Testament readings of the Byzantine Rite for the feasts of the calendar year from 1 September to 29 August edited with ekphonetic signs – Text.

1.2,2: *Pars altera, lectiones anni immobilis, fasciculus alter apparatum criticum continens*, ed. Gudrun Engberg, Copenhagen 1981, 114 pp. The Old Testament readings of the Byzantine Rite for the feasts of the calendar year from 1 September to 29 August edited with ekphonetic signs. – Critical apparatus.

Corpus Scriptorum de Re Musica **(Byzantine music treatises in critical edition, translated and with commentaries)**
Volume 1: *Gabriel Hieromonachos, Abhandlung über den Kirchengesang*, ed. Christian Hannick and Gerda Wolfram, Vienna 1985, 153 pp. (with 3 plates). Edition of the treatise on Byzantine chant ascribed to Gabriel Heromonachos (15th c.) with introduction, German translation, commentary, and indices.

Volume 2: *The Treatise of Manuel Chrysaphes, the Lampadarios: On the Theory of the Art of Chanting and on Certain Erroneous Views that Some Hold About it*, ed. Dimitri E. Conomos, Vienna 1985, 119 pp. The treatise ascribed to Manuel Chrysaphes, edited from Mount Athos, Iviron Monastery, MS 112 (dated July 1458), with introduction, English translation, commentary, and indices.

Volume 3: *Hieronymos Tragodistes: Über das Erfordernis von Schriftzeichen für die Musik der Griechen*, ed. Bjarne Schartau, Vienna 1990, 137 pp. (with 9 plates). Edition of the treatise on the reformed Byzantine notation invented by Hieronymos Tragodistes (16th c.) with introduction, German translation, commentary, and indices.

Volume 4: *Anonymous Questions and Answers on the Interval Signs*, ed. Bjarne Schartau, Vienna 1998, 186 pp. (with 4 plates). Edition of the anonymous treatise *Akríbeia perí to̱n tóno̱n te̱s papadiké̱s téchne̱s* (15th c.) with introduction, English translation, commentary, and indices.

Volume 5: *Die Erotapokriseis des Pseudo-Johannes Damaskenos zum Kirchengesang,* ed. Christian Hannick and Gerda Wolfram, Vienna 1997, 199 pp. (with 10 plates). Ten brief anonymous question-and-answer treatises on Byzantine chant (12th-14th c.) transmitted under the name of John of Damascus edited with introduction, German translation, commentary, and indices.



The purpose of this volume is above all to serve as a key to the deciphering of melodies written in the Middle Byzantine notation. In addition, it offers an introduction to Byzantine chant in a wider sense, dealing with topics such as chant transmission before the neumes, the varieties of Byzantine musical notations, words and music in Byzantine chant, Byzantine and Western neumatic notations, modes, melody and intervals, and the development of the musical genres.

Coming into use around AD 1150, the Middle Byzantine musical notation is the earliest notational type of Byzantium that can be transcribed with reasonable accuracy. Consequently, the musical content of manuscripts earlier than c. 1150 can only be fully understood through Middle Byzantine versions. The Middle Byzantine notation continued to be used in Greek Orthodox Churches until the beginning of the 19th century.

Christian Troelsgård presents a panorama of the styles of Byzantine chant, ranging from simple psalmody to highly elaborate and melismatic pieces. To illustrate the various musical genres and give the reader a first-hand impression of the original sources, a set of specimens of musical manuscripts with known date and provenance is included. The text presents more than sixty musical examples with transcription into staff notation and is provided with an annotated bibliography.

The volume is conceived as an update of H.J.W. Tillyard's *Handbook of the Middle Byzantine Musical Notation* (Copenhagen 1935), one of the first publications to appear in the series Monumenta Musicae Byzantinae.

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Modal signatures and starting notes (§§ 58-67)

I (*Prótos*)		D		a	I Plagal (*Plágios Prótos*)		D			G
II (*Deúteros*)		G		b	II Pl. (*Plágios Deúteros*)		E	Nenanṓ		a
III (*Trítos*)		a		c	III Plagal (*Barýs*)		F			a
IV(*Tétartos*)		G		d	IV Pl. (*Plágios Tétartos*)		G	Naná		c

Rules for the combination of signs (§ 28)

a) A *pneúma*, i.e. a leap sign, cannot stand alone but must always be supported by either a *sṓma*, i.e. a step sign, or a subsidiary sign (rhythmic or phrasing sign, see below). In combinations the dynamic quality is governed by the supporting sign.

Apóstrofos or *dýo apóstrofoi* always support descending leaps, thus is a descending third and is a descending fifth, prolonged.

b) When a *sṓma* combines with a *pnéuma*, their relative position determines the resulting interval. If the *sṓma* stands to the left, it loses the interval value, but if it is positioned under the *pneuma*, the two intervals are added together. Thus is an ascending fifth with *petasthḗ* quality, and is an ascending sixth with *petasthḗ* quality.

c) When different *sómata* are put on top of each other, their interval values are added together, and the 'stronger' sign governs the dynamic quality of the resulting note. For example is an ascending third with *petasthḗ* quality.

d) In all combinations of *íson* (or rarely a descending sign) with an ascending sign, the interval value of the latter is annulled, while its dynamic quality is retained. Thus is a pitch repetition with *oxeía* quality, and is a descending second with *petasthḗ* quality. In combinations of *íson* or *apóstrofos* with *dýo kentḗmata*, an ascending step is added as usual.

e) When two identical *sṓmata* are written on top of each other, such as or , the signs are not added together, but performed as two consecutive steps.

f) In the group called *seísma*, , the last interval sign is counted directly from the first one, skipping the *hyporroḗ* (see § 50).

Combination Table (see § 29):

Pitch repetition (rule d)	Ascending (rules a-c)	3rd	4th	5th	6th	7th	octave
	Descending (rules a-c)						
		3rd	4th	5th	6th	7th	octave

Interval signs (§§ 23-27)

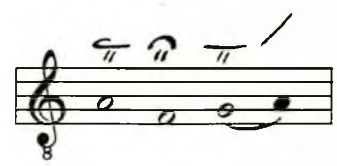
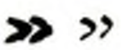
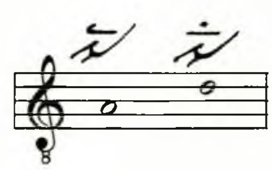
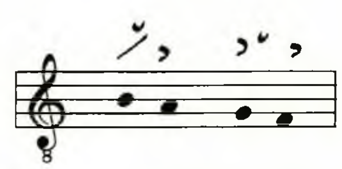
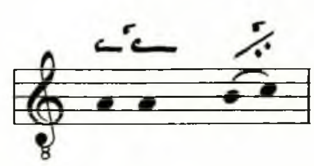
The interval signs indicate the number of steps to move from the preceding pitch (or from a Modal Signature). The signs divide into steps (*sómata),* each of which is associated with a specific dynamic, and leaps (*pneúmata*). The *íson* and the *hyporroé* (plus a few ligatures) stand outside the distinction *sómata/pneúmata*.

Group	Shape and name	Interval value	Dynamics
	íson ἶσον	pitch repetition	neutral
SOMATA	*olígon* ὀλίγον	ascending 2nd	neutral
SOMATA	*oxeía* ὀξεῖα	ascending 2nd	moderate accentuation
SOMATA	*petasthé* πετασθή	ascending 2nd	sharp and/ or modulated accentuation
SOMATA	*koúphisma* κούφισμα	ascending 2nd	light and/or modulated accentuation
SOMATA	*pelastón* πελαστόν	ascending 2nd	almost as *petasthé*
SOMATA	*dýo kentémata* δύο κεντήματα	ascending 2nd	neutral
SOMATA	*apóstrophos* ἀπόστροφος	descending 2nd	neutral
SOMATA	*dýo apóstrophoi* δύο ἀπόστροφοι	descending 2nd, prolonged	neutral
PNEUMATA	*kéntema* κέντημα	ascending 3rd	neutral
PNEUMATA	*hypselé* ὑψηλή	ascending 5th	neutral
PNEUMATA	*elaphrón* ἐλαφρόν	ascending 3rd	neutral
PNEUMATA	*chamelé* χαμηλή	ascending 5th	neutral
	hyporroé ὑπορροή	two consecutive descending 2nds	neutral
	kratemohypórroon κρατημοϋπόρροον	any interval (with the *krátema*) + *hyporroé* (see also § 29)	accentuated, modulated

Subsidiary Signs

A. Rhythmical Signs (§§ 34-39)

The principles of rhythmic organisation are not explicitly indicated in the Middle Byzantine notation. However, a few rhythmical signs are occasionally added to the interval signs in order to indicate prolongation or quick performance of certain melodic elements.

Shape and name	Typical applications	Comments
 *diplē* διπλή		doubles or prolongs the duration of the interval sign considerably
 *dýo apóstrofoi* δύο ἀπόστροφοι		as *diplē* in downwards movements (See also interval signs and combination tables)
 *krátēma* κράτημα		lengthens the note considerably and adds possibly a slight ornament
 *klásma* or *tzákisma* κλάσμα ορ τζάκισμα		lengthens the note somewhat, occurs regularly before descending intervals
 *gorgón* γοργόν		indicates a quick performance of the sign or signs affected
 *argón* ἀργόν		indicates a slow performance of the sign or signs affected

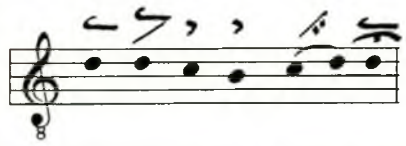
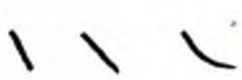
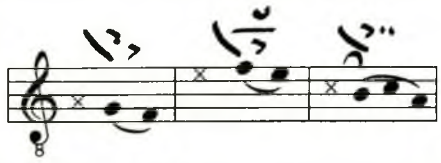
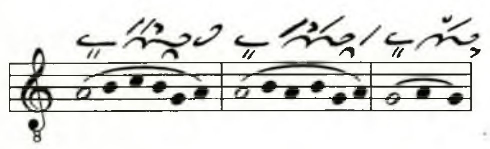
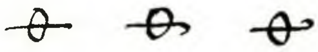
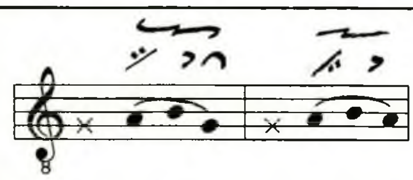
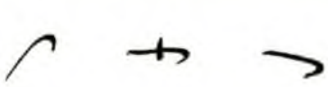
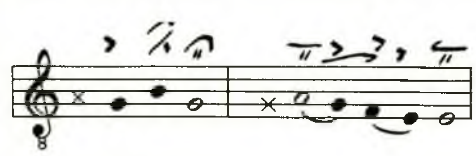
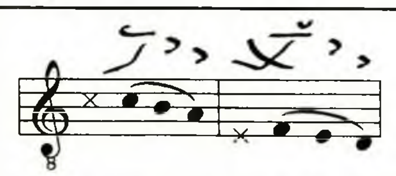
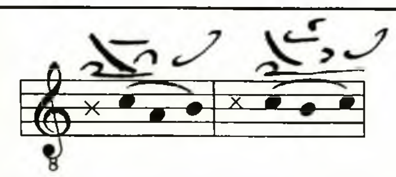
BYZANTINE NEUMES
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B. Group and Phrasing Signs (§§ 40-51)

The subsidiary signs (group and phrasing signs) may accompany one or several interval signs and help to identify conventional phrasings of recurrent melodic elements, traditionally linked to mnemonic movements of the hand and fingers (cheironomy). This reference table renders only a selection of the most recurrent signs. The signs may be written in red or black ink.

Shape and name	Typical applications	Comments
 *apóderma* ἀπόδερμα		marks the end of musical phrases
 *bareía* βαρεῖα		accompanies a descending two-note (occasionally three or four-note) figure
 *píasma* πίασμα		accompanies a descending figure with two or more notes
 *xe̱rón klásma* ξηρὸν κλάσμα		accompanies conventional figures with two-four notes
 *kýlisma* κύλισμα		accompanies conventional figures with three-six (seven) notes
 *thematismós* θεματισμός		a conventional cadential melisma with either an upwards third (*thematismós éso*) or fourth (*thematismós éxo*) leap
 *parakle̱tiké̱* παρακλητική		accompanies the topmost note before a descent of a second or a third
 *antikénoma* ἀντικένωμα		accompanies various descending movements
 *tromikón* τρομικόν		accompanies a conventional four-note group
 *pse̱fistón* ψηφιστόν		before a stepwise descent, probably indicating a stress
 *lýgisma* λύγισμα		used with various three-note motives